

CHEVRON ENVIRONMENTAL
MANAGEMENT COMPANY

**2020 GROUNDWATER MONITORING
AND DUAL-PHASE EXTRACTION
SYSTEM OPERATION REPORT**

Former Unocal Edmonds Bulk Fuel Terminal
Edmonds, Washington

June 30, 2021

2020 GROUNDWATER MONITORING AND DUAL-PHASE EXTRACTION SYSTEM OPERATION
REPORT



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**2020 GROUNDWATER
MONITORING AND
DUAL-PHASE
EXTRACTION SYSTEM
OPERATION REPORT**

Former Unocal Edmonds Bulk Fuel
Terminal
Edmonds, Washington

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ACRONYMS AND ABBREVIATIONS

2020 GOR	2020 Groundwater Monitoring and Dual-Phase Extraction System Operation Report
Arcadis	Arcadis U.S., Inc.
CEMC	Chevron Environmental Management Company
CMP	Compliance Monitoring Plan
COC	constituent of concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CUL	cleanup level
DB-1	Detention Basin 1
DMR	discharge monitoring report
DPE	dual-phase extraction
DRO	diesel range organics
Ecology	Washington State Department of Ecology
Final IAWP	Final Interim Action Work Plan
GRO	gasoline range organics
HO	heavy oil range organics
LNAPL	light nonaqueous phase liquid
MNA	monitored natural attenuation
NAVD88	North American Vertical Datum of 1988
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OM&M	operation maintenance and monitoring
POC	point of compliance
PSCAA	Puget Sound Clean Air Agency
Site	former Unocal Edmonds Bulk Fuel Terminal, located at 11720 Unoco Road, Edmonds, Washington
TEQ	toxic equivalent
TPH	total petroleum hydrocarbons
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code

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µg/L micrograms per liter

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1. INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) prepared this 2020 Groundwater Monitoring and Dual-Phase Extraction System Operation Report (2020 GOR) for the former Union Oil Company of California (Unocal) Edmonds Bulk Fuel Terminal, located at 11720 Unoco Road in Edmonds, Washington (Site). The Site and surrounding area are shown on Figure 1-1.

This 2020 GOR is written in accordance with the specifications of the Compliance Monitoring Plan (CMP), which is provided as Appendix B of the Draft Cleanup Action Plan (Arcadis 2017c) submitted to the Washington State Department of Ecology (Ecology) on July 31, 2017. The Site is currently under Agreed Order No. DE 4460 (Ecology 2007).

The Site is formally known as Unocal Edmonds Bulk Fuel Terminal 0178 in Ecology's database. Identifiers are:

- Facility Site Identification Number: 2720
- Cleanup Site Identification Number: 5180.

In 2020, Arcadis performed the following activities:

- Quarterly groundwater monitoring events
- Operation of the dual-phase extraction (DPE) remediation system according to the Final Interim Action Work Plan (Final IAWP; Arcadis 2016b), the Dual-Phase Extraction System Operation, Maintenance, and Monitoring Manual (Arcadis 2017a) and the National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. WA099100.

The 2020 GOR includes:

- Descriptions of field activities, including any unusual or unexpected events or conditions
- Tables containing groundwater monitoring data, as well as groundwater sample analytical results
- Figures displaying total petroleum hydrocarbons (TPHs), benzene, and total toxic equivalent (TEQ) carcinogenic polycyclic aromatic hydrocarbons (cPAHs) concentrations in the groundwater samples
- Copies of laboratory reports and chain of custody documentation
- Discharge monitoring reports in accordance with NPDES permit requirements.

2. SITE DESCRIPTION

The Site, as defined by the Model Toxics Control Act (MTCA), comprises the areas of the Lower Yard and the former Upper Yard. The Site layout, as well as the areas of the Lower Yard, are shown on Figure 2-1.

The approximately 25-acre former Upper Yard is located south of the Lower Yard (Figure 2-1). Unocal sold the former Upper Yard to Point Edwards, LLC in October 2003 after Ecology confirmed that Unocal had completed cleanup activities in the Upper Yard (Ecology 2003). The Upper Yard was subsequently redeveloped as the Point Edwards condominium complex. The aquifer beneath the Site is considered a site-wide aquifer; therefore, groundwater constituents of concern (COCs) are the same for the former Upper Yard and the Lower Yard. Additionally, points of compliance (POCs) for the former Upper Yard will be monitored at POC monitoring well locations in the Lower Yard.

The approximately 22-acre Lower Yard surrounds the former Upper Yard to the north, east, and west, and is currently owned by Unocal. The Lower Yard is currently a vacant property, with no permanent aboveground structures. A temporary storage shed, concrete pad, and remediation system enclosure are located along lower Unoco Road in the central portion of the Lower Yard. The Lower Yard stormwater system conveys direct precipitation and stormwater to Detention Basin 1 (DB-1).

Willow Creek runs along the northern portion of the western boundary and the entire eastern boundary of the Lower Yard. To the north and northeast of the Lower Yard beyond Willow Creek is Edmonds Marsh, which is a 23-acre freshwater and brackish water marsh. Willow Creek and Edmonds Marsh are directly connected to Puget Sound and are tidally influenced. At high tide, water flows from Puget Sound upstream in Willow Creek into Edmonds Marsh; at low tide, water drains from Edmonds Marsh through Willow Creek into Puget Sound. At its nearest point (the southwest corner of the Lower Yard), the Site is approximately 160 feet from the Puget Sound shoreline. The tidal variations in water levels in Puget Sound also influence groundwater elevations at the Site perimeter.

3. GROUNDWATER MONITORING

This section discusses the groundwater monitoring program, groundwater cleanup levels, and groundwater sampling events conducted at the Site in 2020.

3.1 Groundwater Monitoring Program

The groundwater monitoring program includes quarterly events. The events include gauging and sampling of the interior and perimeter compliance monitoring wells listed in the CMP (Arcadis 2017c), in Table 3-1 below, and as shown on Figure 3-1. Additionally, the groundwater monitoring program includes gauging of monitoring wells in the southeast Lower Yard (MW-108, MW-109, MW-135, MW-136, MW-500, and MW-501), southwest Lower Yard (MW-147, MW-149-R, MW-150, MW-523, and MW-524), and southeast Lower Yard near the Willow Creek fish hatchery (MW-13U, MW-134X, MW-203, MW-527, and MW-528).

Table 3-1. Groundwater Compliance Monitoring Wells

Perimeter Wells	Interior Wells
LM-2	MW-126
MW-8R	MW-143
MW-20R	MW-502
MW-101	MW-503
MW-104	MW-504
MW-129R	MW-505
MW-139R	MW-506
MW-518	MW-507
MW-522	MW-509
MW-530	MW-511
MW-533	MW-512
MW-535	MW-513
	MW-514
	MW-515
	MW-516
	MW-517
	MW-519
	MW-520
	MW-521
	MW-525
	MW-526
	MW-531
	MW-532
	MW-E-R
	MW-534

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The groundwater monitoring program includes gauging of the monitoring wells to measure water levels and assess the presence of recoverable light nonaqueous phase liquid (LNAPL) within 2 hours of low tide, according to the tide charts for Edmonds, Washington (obtained from the National Oceanic and Atmospheric Administration [NOAA]), which are provided in Appendix A.¹

The groundwater monitoring program includes purging and collecting groundwater samples using low-flow methods, monitoring water quality parameters (dissolved oxygen, oxidation-reduction potential, pH, conductivity, and temperature), and submitting groundwater samples to an Ecology-approved laboratory under chain of custody for the analyses described in the CMP (Arcadis 2017c) and summarized below:

- COCs:
 - Benzene by United States Environmental Protection Agency (USEPA) Method 8260²
 - Gasoline range organics (GRO) by Ecology Method NWTPH-Gx
 - Diesel range organics (DRO) and heavy oil range organics (HO) by Ecology Method NWTPH-Dx (after silica gel cleanup)
 - cPAHs by USEPA Method 8270 selected ion monitoring, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.
- Monitored natural attenuation (MNA) parameters:
 - Sulfate and nitrate by USEPA Method 300.0
 - Dissolved methane by USEPA Method RSK 175
 - Dissolved manganese by USEPA Method 200.8 (field filtered)
 - Ferrous iron (Hach® field kits) measured in the field only.

Groundwater samples are submitted quarterly for COCs and biannually for MNA parameters.

3.2 Groundwater Cleanup Levels

Groundwater cleanup levels (CULs) for the Site are summarized in Table 3-2 below. Further details regarding CUL identification are provided in the Public Review Draft Final Feasibility Study Report (Arcadis 2017b).

¹ Available at <https://tidesandcurrents.noaa.gov/noaatidepredictions.html?id=9447427&legacy=1>

² The method previously approved in the Draft CMP, USEPA Method 8021, for analysis of benzene is now obsolete and has been replaced by the USEPA Method 8260.

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Table 3-2. Groundwater Cleanup Levels

Constituents of Concern ¹	Cleanup Levels (as protection of surface water) ¹
TPH ²	— ⁴
Benzene	16 µg/L ⁵
Total cPAHs TEQ ³	0.05 µg/L ⁶

Notes:

¹ The aquifer beneath the Site is considered a site-wide aquifer; therefore, groundwater COCs and CULs are the same for the former Upper Yard and the Lower Yard.

² TPH concentration calculated by summing the concentrations of GRO, DRO, and HO. For results that do not exceed method reporting limits, one-half of the reporting limit is added to determine TPH concentration.

³ Total cPAHs calculated by summing the concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and are adjusted for toxicity using toxic equivalency factors to represent a total benzo(a)pyrene concentration (Washington Administrative Code [WAC] 173-340-900). For results that do not exceed method reporting limits, one-half of the reporting limit is added to determine the total cPAHs concentration.

⁴ Method A (WAC 173-340-900, Table 720-1); TPH calculated on a sample-specific basis. The CUL will fall between 500 and 800 micrograms per liter (µg/L), depending on the sample's composition.

⁵ National Recommended Water Quality Criteria for human-health (organisms only) (USEPA 2015).

⁶Total cPAHs TEQ adjusted for practical quantitation limit based on WAC 173-340-730(5)(c).

3.3 2020 Groundwater Sampling Events

3.3.1 Field Activities

Arcadis performed the following quarterly groundwater sampling events in 2020:

- First quarter: March 9 to 12
- Second quarter: June 22 to June 25. Due to logistical issues related to the ongoing pandemic, eight groundwater wells had to be resampled on June 30 and July 1. Monitoring well MW-515 could not be sampled during the second quarter due to the presence of a wasp nest in the well box.
- Third quarter: September 18 to 23.
- Fourth quarter: November 2 to 6.

Gauging was implemented per the groundwater monitoring program described in Section 3.1. The depths to groundwater in monitoring wells were measured on March 12, June 22, September 18, and November 2, within a 2-hour window during low tide, according to the tide charts for Edmonds presented in Appendix A. Groundwater field notes are provided in Appendix B.

Sampling was conducted per the groundwater monitoring program described in Section 3.1. Groundwater samples were submitted to Lancaster Laboratories Environmental, an Ecology-approved laboratory, under chain of custody and were analyzed in accordance with the methods described in Section 3.1.

3.3.2 Groundwater Elevation and Flow Direction

Groundwater elevations throughout the Lower Yard remained consistent from October 2008 to December 2020, with average groundwater elevations ranging between 5 and 9 feet above North American Vertical Datum of 1988 (NAVD 88) (excluding data for the southeast Lower Yard, which indicate the presence of an area of localized groundwater mounding [with average groundwater elevations ranging between 9 and 11 feet above NAVD 88 and groundwater elevations in monitoring wells MW-500 and MW-501 generally observed several feet higher than nearby wells]). In general, the seasonal variation includes the difference between the highest groundwater elevations observed during January and the lowest groundwater elevations observed between June and September.

Historically observed groundwater gradient is to the north-northwest in the central portion of the Site (Central Lower Yard) and to the northwest in the western portion of the Site (Western Boundary, West/Northwest Lower Yard, and Southwest Lower Yard).

Measured depth to water and groundwater elevations observed in 2020, as well as historical data, are presented in Table 3-3. Groundwater elevations and contours are presented on the figures in Appendix C. The interpreted groundwater flow direction was generally to the west-northwest for the Site with local variations: north to west in the central portion of the Site (Central Lower Yard), northwest in the western portion of the Site (Western Boundary, West/Northwest Lower Yard, and Southwest Lower Yard), and a mounding effect in the southeast Lower Yard. The 2020 groundwater flow directions are consistent with historical data.

No LNAPL was encountered at the Site during any of the 2020 groundwater sampling events. However, approximately three weeks following the restart of the DPE system on January 31, 2020, LNAPL was observed in groundwater well MW-129R (0.06 feet), located approximately 8 feet from DPE well DPE-18. The observation was made during the February 24, 2020 DPE system performance gauging event. A bailer was used to confirm the LNAPL presence, with a measurable thickness of 0.01 feet observed. With Ecology's approval, an oil absorbent sock was placed in groundwater well MW-129R on February 24, 2020 and removed on April 17, 2020. Weekly gauging of groundwater well MW-129R was conducted from February 24 to June 6, 2020. LNAPL has not been measured in groundwater well MW-129R since February 24, 2020.

3.3.3 Analytical Results

Thirty-three of the 37 POC monitoring wells contained COC concentrations either non-detect or less than their respective CULs. Analytical results are presented in Tables 3-4 and 3-5. Figures 3-2 and 3-3 show the Site groundwater remediation status as of fourth quarter 2020. Low-flow sampling field notes are included in Appendix B. COC concentrations are presented on the figures in Appendix C. Groundwater laboratory analytical reports and chain of custody documents are included in Appendix D.

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3.3.3.1 Constituent of Concern Concentrations

For each quarterly groundwater sampling event during 2020, COC results relative to the respective CULs are listed below:

- First quarter:
 - *TPH*. MW-129R and MW-E-R contained TPH concentrations of 1,694 and 1,016 µg/L, respectively.
 - *Benzene*. No exceedances were observed.
 - *cPAHs*. MW-535 contained a cPAHs concentration of 0.192 µg/L.
- Second quarter:
 - *TPH*. MW-101, MW-518 and MW-E-R contained TPH concentrations of 1,274, 1,072 and 1,079 µg/L, respectively.
 - *Benzene*. No exceedances were observed.
 - *cPAHs*. MW-502 and MW-521 contained cPAHs concentrations of 0.078 and 0.235 µg/L, respectively.
- Third quarter:
 - *TPH*. MW-101, MW-139R, MW-526, MW-531 and MW-E-R contained TPH concentrations of 1,879, 870, 885, 2,610 and 1,580 µg/L, respectively.
 - *Benzene*. No exceedances were observed.
 - *cPAHs*. No exceedances were observed.
- Fourth quarter:
 - *TPH*. MW-101, MW-104, MW-503 and MW-E-R contained TPH concentrations of 1,730, 1,330, 860, and 1,427 µg/L, respectively.
 - *Benzene*. No exceedances were observed.
 - *cPAHs*. No exceedances were observed.

3.3.3.2 Monitored Natural Attenuation Parameters

Twenty-six of the 36 POCs sampled during the June 2020 event contained methane concentrations greater than the reporting limit of 3 µg/L, and 15 of those POCs contained methane concentrations greater than 100 µg/L, suggesting degradation of organic constituents.

Twenty-seven of the 37 POCs during the November 2020 event contained methane concentrations greater than the reporting limit of 3 µg/L, and 22 of those POCs contained methane concentrations greater than 100 µg/L, again suggesting degradation of organic constituents.

4. REMEDIATION SYSTEM

This section discusses the remediation system operations conducted at the Site in 2020.

4.1 Remediation System Background

The DPE system was installed in 2017 to address remaining impacts near the Washington State Department of Transportation stormwater line, as discussed in the Engineering Design Report and the Final IAWP (Arcadis 2016a, 2016b). Construction details for the DPE system are described in the Dual-Phase Extraction System As-Built Report (Arcadis 2018). The groundwater extraction unit treating the extracted groundwater includes a 500-gallon conical bottom settling tank, a 500-gallon batch tank, a Goulds centrifugal transfer pump, two sets in parallel of bag filters in series, and two sets in parallel of two 3,000-pound GAC vessels. Extracted vapors are treated using a catalytic oxidizer unit. Treated water from the DPE system is discharged to Willow Creek at Outfall #002 under NPDES Waste Discharge Permit No. WA0991007. This permit requires the collection of discharge water samples weekly at Outfall #002 during system operation and submittal of the discharge water samples to an Ecology-approved laboratory for the following analyses:

- Benzene by USEPA Method 624
- GRO by Ecology Method NWTPH-Gx
- DRO by Ecology Method NWTPH-Dx (after silica gel cleanup)
- cPAHs by USEPA Method 625
- pH (field measurement onsite).

NPDES Waste Discharge Permit No. WA0991007, effective since November 1, 2016, requires discharge monitoring reports (DMRs; provided in Appendix E) to be entered by the 28th day of each month into Ecology's online system WQebDMR.

Treated effluent vapors from the DPE system are discharged under the Puget Sound Clean Air Agency (PSCAA) Permit No.29892 per the permit restrictions and conditions.

The DPE system startup began on December 1, 2017 with the groundwater extraction components. The SVE portion of the DPE system commenced operation on December 11, 2017. The SVE portion of the DPE system was turned off on November 21, 2018 to prepare for the December 2018 groundwater monitoring event. As discussed in the approved 2018 Washington State Stormwater Compliance Sampling Work Plan, upon startup in December 2017, mass removal rates exceeded 40 lbs/day but by December 2018 had decreased to under 1 lb/day and had reached asymptotic levels and therefore the SVE operation was not resumed following the December 2018 groundwater monitoring event. The SVE portion of the DPE system was restarted on September 23, 2019 based on the results of rebound testing occurring throughout September 2019 following DPE system expansion. A mechanical failure required DPE system shutdown from September 27, 2019 to January 31, 2020 when mechanical repairs were completed. The groundwater extraction components of the DPE system restarted on January 31, 2020, with the SVE components restarting on February 13, 2020.

4.2 Remediation System Operation

From January 1 through December 31, 2020, the following activities related to DPE system operation were performed:

- Arcadis conducted DPE system operation, maintenance, and monitoring (OM&M) according to the Dual-Phase Extraction System Operation, Maintenance, and Monitoring Manual (OM&M Manual) (Arcadis 2017a). The groundwater extraction components of the DPE system restarted on January 31, 2020, with the SVE components restarting on February 13, 2020. In 2020, the DPE system was operational as noted below:
 - From January 31 to June 6 with the exception of a period of two weeks in March to account for the groundwater monitoring and short-term disruption for routine system maintenance such as bag filter change. The system was turned off on June 6 to account for the June groundwater monitoring event;
 - From July 1 to 12 with the exception of short-term disruption for routine system maintenance such as bag filter change. The system turned off on July 13 due to mechanical issues that were repaired on August 7;
 - From August 7 to September 9 with the exception of short-term disruption for routine system maintenance such as bag filter change. A carbon vessel failure required DPE system shutdown from September 9, 2020 to June 15, 2021 when repairs were completed and new vessels installed. The groundwater extraction and SVE components of the DPE system both restarted on June 15, 2021.
- As part of the DPE system OM&M, Arcadis gauged the observation and DPE wells to assess drawdown. Potentiometric surface maps showing drawdown during system operation are presented in Appendix F.
- Arcadis monitored the discharged treated water by collecting samples and the discharged treated vapor using a photo ionization detector (PID) (see Section 4.3).

Groundwater and vapor extraction data since the beginning of operation are presented in Tables 4-1 and 4-2. Influent and effluent vapor laboratory data since the beginning of operation and mass removal calculations are presented in Table 4-3. Individual DPE well groundwater and vapor data since the beginning of operation are presented in Tables 4-4 and 4-5. Observation well data since the beginning of operation are presented in Table 4-6. Catalytic oxidizer data since the beginning of operation are presented in Table 4-7. DPE system mass removal rates and cumulative mass removal are shown on Figure 4-1.

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The DPE system operation is summarized below:

System startup date:	12/01/2017
Remedial technology:	Dual-phase extraction and treatment system
System operation:	Operation from 12/01/2017 to 12/31/2020 (not continuous) with 6,933 hours of operation time ³ since system startup.
System OM&M schedule:	OM&M was performed according to the OM&M Manual
NPDES permit conditions met:	Yes
PSCAA permit conditions met:	Yes
Total volume treated (gallons) since beginning of operation:	13,590,662
Approximate total vapor-phase mass removed since beginning of operation:	
field data (PID):	514 pounds volatile organic compounds
analytical data:	631 pounds GRO

4.3 Effluent Discharge

4.3.1 2020 Water Discharge

Discharge into Willow Creek at Outfall #002 under NPDES Waste Discharge Permit No. WA0991007 was implemented weekly throughout 2020 for the analytical program described in Section 4.1. If the discharge was suspended for a given week, the associated sampling event was suspended accordingly. DPE system treated water discharge analytical data and field parameters are presented in Table 4-8. The sample results met the NPDES permit conditions during 2020.

DMRs are presented in Appendix E. Outfall #002 laboratory analytical results and chain-of-custody documents are included in Appendix G.

4.3.2 2020 Vapor Discharge

Pre- and post-treatment effluent vapor monitoring under PSCAA Permit No.29892 was implemented from February 13 through August 19, 2020. The vapor phase treatment and vapor extraction system was shutdown on August 19 due to vapor control valve issues on the oxidizer. The valve was repaired but the system was left off due to asymptotic mass removal rates. Following shutdown, the associated monitoring event was suspended accordingly. All post-treatment vapor discharge concentrations, discharge flow, and treatment temperatures met permit conditions during 2020. Vapor discharge results are summarized in Table 4-7. DPE system vapor laboratory analytical reports and chain-of-custody documents are included in Appendix H.

³ Operation time of the in well DPE pumps.

5. REFERENCES

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TABLES



Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
LM-2	10/20/08	16:08	8.14	2.66	--	NP	5.48	--
LM-2	12/08/08	10:51	8.14	2.89	--	NP	5.25	--
LM-2	02/20/09	9:55	8.14	2.64	--	NP	5.50	--
LM-2	04/20/09	9:48	8.14	2.46	--	NP	5.68	--
LM-2	06/22/09	11:35	8.14	2.84	--	NP	5.30	--
LM-2	08/03/09	11:18	8.14	3.10	--	NP	5.04	--
LM-2	08/17/09	9:27	8.14	3.09	--	NP	5.05	--
LM-2	10/29/09	9:46	8.14	2.56	--	NP	5.58	--
LM-2	01/18/10	13:47	8.14	2.59	--	NP	5.55	--
LM-2	04/19/10	15:14	8.14	2.20	--	NP	5.94	--
LM-2	07/19/10	7:24	8.14	2.41	--	NP	5.73	--
LM-2	10/25/10	14:02	8.14	1.63	--	NP	6.51	--
LM-2	03/21/11	12:32	8.14	1.60	--	NP	6.54	--
LM-2	06/14/11	10:54	8.14	2.54	--	NP	5.60	--
LM-2	09/26/11	10:59	8.14	2.79	--	NP	5.35	--
LM-2	12/12/11	12:42	8.14	2.46	--	NP	5.68	--
LM-2	03/27/12	14:09	8.14	1.71	--	NP	6.43	--
LM-2	06/27/12	17:14	8.14	1.98	--	NP	6.16	--
LM-2	09/25/12	7:40	8.14	2.51	--	NP	5.63	--
LM-2	12/13/12	10:15	8.14	1.68	--	NP	6.46	--
LM-2	03/25/13	10:20	8.14	1.17	--	NP	6.97	--
LM-2	06/24/13	12:45	8.14	1.66	--	NP	6.48	--
LM-2	09/23/13	13:55	8.14	2.36	--	NP	5.78	--
LM-2	12/16/13	11:33	8.14	1.86	--	NP	6.28	--
LM-2	03/26/14	8:15	8.14	1.94	--	NP	6.20	--
LM-2	06/16/14	13:11	8.14	2.04	--	NP	6.10	--
LM-2	09/29/14	14:58	8.14	2.29	--	NP	5.85	--
LM-2	12/08/14	12:15	8.14	1.90	--	NP	6.24	--
LM-2	03/23/15	14:51	8.14	2.13	--	NP	6.01	--
LM-2	06/22/15	15:48	8.14	2.50	--	NP	5.64	--
LM-2	10/27/16	9:26	8.14	1.62	--	NP	6.52	--
LM-2	07/24/17	11:40	8.14	1.62	--	NP	6.52	--
LM-2	03/19/18	13:30	8.14	1.70	--	NP	6.44	--
LM-2	06/26/18	10:11	8.14	1.92	--	NP	6.22	--
LM-2	09/21/18	8:41	8.14	2.60	--	NP	5.54	--
LM-2	11/26/18	13:11	8.14	1.22	--	NP	6.92	PID: 0.6
LM-2	03/18/19	9:59	8.14	1.78	--	NP	6.36	--
LM-2	06/17/19	11:27	8.14	1.85	--	NP	6.29	--
LM-2	09/16/19	12:52	8.14	1.63	--	NP	6.51	--
LM-2	12/10/19	09:44	8.14	1.69	--	NP	6.45	--
LM-2	03/12/20	13:01	8.14	1.58	--	NP	6.56	--
LM-2	06/22/20	12:10	8.14	1.62	--	NP	6.52	--
LM-2	09/18/20	12:12	8.14	1.79	--	NP	6.35	--
LM-2	11/02/20	0:49	8.14	1.62	--	NP	6.52	--
MW-E	10/20/08	16:20	14.42	7.95	--	NP	6.47	--
MW-E	12/08/08	11:35	14.42	7.78	--	NP	6.64	--
MW-E	02/20/09	10:27	14.42	7.58	--	NP	6.84	--
MW-E	04/20/09	10:11	14.42	7.48	--	NP	6.94	--
MW-E	06/22/09	12:14	14.42	7.94	--	NP	6.48	--
MW-E	08/03/09	11:32	14.42	8.10	--	NP	6.32	--
MW-E	08/17/09	9:39	14.42	8.19	--	NP	6.23	--
MW-E	10/29/09	8:53	14.42	7.02	--	NP	7.40	--
MW-E	01/18/10	13:45	14.42	6.89	--	NP	7.53	--
MW-E	04/19/10	15:39	14.42	7.10	--	NP	7.32	--
MW-E	07/19/10	7:41	14.42	7.65	--	NP	6.77	--
MW-E	10/25/10	14:14	14.42	7.30	--	NP	7.12	--
MW-E	03/21/11	12:44	14.42	6.58	--	NP	7.84	--
MW-E	06/14/11	11:15	14.42	7.57	--	NP	6.85	--
MW-E	09/26/11	11:06	14.42	7.93	--	NP	6.49	--
MW-E	12/12/11	12:41	14.42	7.45	--	NP	6.97	--
MW-E	03/27/12	14:24	14.42	6.71	--	NP	7.71	--
MW-E	06/27/12	17:26	14.42	7.19	--	NP	7.23	--
MW-E	09/25/12	8:03	14.42	7.82	--	NP	6.60	--
MW-E	12/13/12	10:15	14.42	6.68	--	NP	7.74	--
MW-E	03/25/13	10:37	14.42	6.82	--	NP	7.60	--
MW-E	06/24/13	12:06	14.42	7.29	--	NP	7.13	--
MW-E	09/23/13	14:05	14.42	7.58	--	NP	6.84	--
MW-E	12/16/13	10:43	14.42	7.46	--	NP	6.96	--
MW-E	03/26/14	8:26	14.42	6.99	--	NP	7.43	--
MW-E	06/16/14	13:54	14.42	7.42	--	NP	7.00	--
MW-E	09/29/14	15:55	14.42	7.46	--	NP	6.96	--
MW-E	12/08/14	12:45	14.42	6.84	--	NP	7.58	--
MW-E	03/23/15	13:59	14.42	7.09	--	NP	7.33	--
MW-E	06/22/15	15:17	14.42	7.66	--	NP	6.76	--
MW-E	10/27/16	9:58	14.42	6.67	--	<0.01	7.75	Film observed during gauging, confirmed with bailer
MW-E	07/24/17	12:45	14.42	7.29	--	NP	7.13	--
MW-E-R	03/19/18	12:43	14.30	6.89	--	NP	7.41	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-E-R	06/26/18	10:20	14.30	7.41	--	NP	6.89	--
MW-E-R	09/21/18	8:17	14.30	7.35	--	NP	6.95	--
MW-E-R	11/26/18	12:27	14.30	6.93	--	NP	7.37	--
MW-E-R	02/07/19	10:05	14.30	7.10	--	NP	7.20	Not part of the quarterly monitoring program; gauged out of low tide window
MW-E-R	03/18/19	9:31	14.30	7.05	--	NP	7.25	
MW-E-R	06/17/19	11:12	14.30	7.20	--	NP	7.10	
MW-E-R	09/16/19	12:33	14.30	7.13	--	NP	7.17	
MW-E-R	12/10/19	10:12	14.30	7.51	--	NP	6.79	
MW-E-R	03/12/20	13:42	14.30	7.02	--	NP	7.28	
MW-E-R	06/22/20	12:25	14.30	6.97	--	NP	7.33	
MW-E-R	09/18/20	11:42	14.30	7.28	--	NP	7.02	
MW-E-R	11/02/20	11:25	14.30	7.00	--	NP	7.30	
MW-8R	10/20/08	15:47	13.82	8.49	--	NP	5.33	
MW-8R	12/08/08	10:17	13.82	8.35	--	NP	5.47	--
MW-8R	02/20/09	9:22	13.82	8.11	--	NP	5.71	--
MW-8R	04/20/09	9:09	13.82	8.40	--	NP	5.42	--
MW-8R	06/22/09	11:13	13.82	7.06	--	NP	6.76	--
MW-8R	08/03/09	10:53	13.82	8.21	--	NP	5.61	--
MW-8R	08/17/09	8:53	13.82	8.45	--	NP	5.37	--
MW-8R	10/29/09	8:43	13.82	7.99	--	NP	5.83	--
MW-8R	01/18/10	13:21	13.82	6.02	--	NP	7.80	--
MW-8R	04/19/10	14:29	13.82	7.64	--	NP	6.18	--
MW-8R	07/19/10	6:58	13.82	8.37	--	NP	5.45	--
MW-8R	10/25/10	13:31	13.82	7.83	--	NP	5.99	--
MW-8R	03/21/11	12:16	13.82	6.92	--	NP	6.90	--
MW-8R	06/14/11	9:58	13.82	8.13	--	NP	5.69	--
MW-8R	09/26/11	10:48	13.82	8.35	--	NP	5.47	--
MW-8R	12/12/11	11:39	13.82	8.39	--	NP	5.43	--
MW-8R	03/27/12	13:47	13.82	7.39	--	NP	6.43	--
MW-8R	06/27/12	16:37	13.82	8.04	--	NP	5.78	--
MW-8R	09/25/12	7:30	13.82	8.46	--	NP	5.36	--
MW-8R	12/13/12	9:49	13.82	7.24	--	NP	6.58	--
MW-8R	03/25/13	9:56	13.82	8.25	--	NP	5.57	--
MW-8R	06/24/13	11:19	13.82	8.13	--	NP	5.69	--
MW-8R	09/23/13	13:28	13.82	8.02	--	NP	5.80	--
MW-8R	12/16/13	9:35	13.82	8.58	--	NP	5.24	--
MW-8R	03/26/14	7:45	13.82	7.83	--	NP	5.99	--
MW-8R	06/16/14	13:16	13.82	8.16	--	NP	5.66	--
MW-8R	09/29/14	13:26	13.82	7.62	--	NP	6.20	--
MW-8R	12/08/14	12:00	13.82	7.21	--	NP	6.61	--
MW-8R	03/23/15	13:07	13.82	8.53	--	NP	5.29	--
MW-8R	06/22/15	15:11	13.82	8.33	--	NP	5.49	--
MW-8R	10/27/16	8:48	13.82	7.02	--	NP	6.80	--
MW-8R	07/24/17	11:31	13.82	8.31	--	NP	5.51	--
MW-8R	03/19/18	12:13	13.82	7.98	--	NP	5.84	--
MW-8R	06/26/18	9:50	13.82	8.56	--	NP	5.26	--
MW-8R	09/21/18	8:37	13.82	8.44	--	NP	5.38	--
MW-8R	11/26/18	12:37	13.82	7.85	--	NP	5.97	--
MW-8R	03/18/19	9:12	13.82	8.42	--	NP	5.40	--
MW-8R	06/17/19	10:51	13.82	8.39	--	NP	5.43	--
MW-8R	09/16/19	12:03	13.82	8.22	--	NP	5.60	--
MW-8R	12/10/19	9:30	13.82	8.06	--	NP	5.76	--
MW-8R	03/12/20	13:15	13.82	8.28	--	NP	5.54	--
MW-8R	06/22/20	12:20	13.82	8.30	--	NP	5.52	--
MW-8R	09/18/20	12:11	13.82	8.33	--	NP	5.49	--
MW-8R	11/02/20	11:50	13.82	8.51	--	NP	5.31	--
MW-101	10/20/08	15:55	14.99	8.97	--	NP	6.02	--
MW-101	12/08/08	10:30	14.99	8.96	--	NP	6.03	--
MW-101	02/20/09	9:40	14.99	8.81	--	NP	6.18	--
MW-101	04/20/09	9:15	14.99	8.83	--	NP	6.16	--
MW-101	06/22/09	11:27	14.99	8.95	--	NP	6.04	--
MW-101	08/03/09	11:03	14.99	9.14	--	NP	5.85	--
MW-101	08/17/09	9:18	14.99	9.38	--	NP	5.61	--
MW-101	10/29/09	9:00	14.99	8.71	--	NP	6.28	--
MW-101	01/18/10	13:30	14.99	7.00	--	NP	7.99	--
MW-101	04/19/10	14:43	14.99	8.31	--	NP	6.68	--
MW-101	07/19/10	7:10	14.99	9.08	--	NP	5.91	--
MW-101	10/25/10	13:39	14.99	8.55	--	NP	6.44	--
MW-101	03/21/11	12:23	14.99	7.85	--	NP	7.14	--
MW-101	06/14/11	10:07	14.99	8.79	--	NP	6.20	--
MW-101	09/26/11	10:50	14.99	9.13	--	NP	5.86	--
MW-101	12/12/11	11:56	14.99	9.82	--	NP	5.17	--
MW-101	03/27/12	13:52	14.99	8.06	--	NP	6.93	--
MW-101	06/27/12	16:53	14.99	8.79	--	NP	6.20	--
MW-101	09/25/12	7:28	14.99	9.39	--	NP	5.60	--
MW-101	12/13/12	10:06	14.99	7.95	--	NP	7.04	--
MW-101	03/25/13	10:06	14.99	8.01	--	NP	6.98	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-101	06/24/13	11:27	14.99	8.86	--	NP	6.13	--
MW-101	09/23/13	13:37	14.99	8.76	--	NP	6.23	--
MW-101	12/16/13	11:40	14.99	9.20	--	NP	5.79	--
MW-101	03/26/14	7:45	14.99	8.19	--	NP	6.80	--
MW-101	06/16/14	13:24	14.99	8.91	--	NP	6.08	--
MW-101	09/29/14	13:42	14.99	8.72	--	NP	6.27	--
MW-101	12/08/14	12:20	14.99	8.01	--	NP	6.98	--
MW-101	03/23/15	13:22	14.99	8.24	--	NP	6.75	--
MW-101	06/22/15	15:22	14.99	9.14	--	NP	5.85	--
MW-101	10/27/16	9:03	14.99	7.88	--	NP	7.11	--
MW-101	07/24/17	11:44	14.99	8.99	--	NP	6.00	--
MW-101	03/19/18	12:29	14.99	8.64	--	NP	6.35	--
MW-101	06/26/18	10:07	14.99	9.41	--	NP	5.58	--
MW-101	09/21/18	9:04	14.99	9.17	--	NP	5.82	--
MW-101	11/26/18	12:54	14.99	8.69	--	NP	6.30	PID: 0.1
MW-101	02/07/19	12:34	14.99	8.65	--	NP	6.34	Not part of the quarterly monitoring program; gauged out of low tide window
MW-101	03/18/19	9:22	14.99	8.90	--	NP	6.09	--
MW-101	06/17/19	11:09	14.99	9.01	--	NP	5.98	--
MW-101	09/16/19	12:07	14.99	8.91	--	NP	6.08	--
MW-101	12/10/19	9:39	14.99	8.96	--	NP	6.03	--
MW-101	03/12/20	13:19	14.99	9.06	--	NP	5.93	--
MW-101	06/22/20	12:13	14.99	9.00	--	NP	5.99	--
MW-101	09/18/20	12:42	14.99	9.12	--	NP	5.87	--
MW-101	11/02/20	11:32	14.99	9.01	--	NP	5.98	--
MW-104	10/20/08	15:53	14.08	8.21	--	NP	5.87	--
MW-104	12/08/08	10:28	14.08	8.20	--	NP	5.88	--
MW-104	02/20/09	9:34	14.08	8.09	--	NP	5.99	--
MW-104	04/20/09	9:13	14.08	8.32	--	NP	5.76	--
MW-104	06/22/09	11:24	14.08	8.41	8.40	0.01 ^A	5.67	Measurement error. See note ^A .
MW-104	08/03/09	11:02	14.08	8.51	--	NP	5.57	--
MW-104	08/17/09	9:17	14.08	8.80	--	NP	5.28	--
MW-104	10/29/09	8:59	14.08	8.12	--	NP	5.96	--
MW-104	01/18/10	13:29	14.08	6.24	--	NP	7.84	--
MW-104	04/19/10	14:40	14.08	7.77	--	NP	6.31	--
MW-104	07/19/10	7:08	14.08	8.47	--	NP	5.61	--
MW-104	10/25/10	13:37	14.08	7.74	--	NP	6.34	--
MW-104	03/21/11	12:21	14.08	7.11	--	NP	6.97	--
MW-104	06/14/11	10:04	14.08	8.26	--	NP	5.82	--
MW-104	09/26/11	10:47	14.08	8.50	--	NP	5.58	--
MW-104	12/12/11	11:48	14.08	8.15	--	NP	5.93	--
MW-104	03/27/12	13:50	14.08	7.39	--	NP	6.69	--
MW-104	06/27/12	16:49	14.08	8.09	--	NP	5.99	--
MW-104	09/25/12	7:26	14.08	8.78	--	NP	5.30	--
MW-104	12/13/12	10:04	14.08	7.21	--	NP	6.87	--
MW-104	03/25/13	10:04	14.08	8.13	--	NP	5.95	--
MW-104	06/24/13	11:25	14.08	8.19	--	NP	5.89	--
MW-104	09/23/13	13:35	14.08	7.99	--	NP	6.09	--
MW-104	12/16/13	10:03	14.08	8.45	--	NP	5.63	--
MW-104	03/26/14	7:40	14.08	7.55	--	NP	6.53	--
MW-104	06/16/14	13:22	14.08	8.24	--	NP	5.84	--
MW-104	09/29/14	13:33	14.08	7.99	--	NP	6.09	--
MW-104	12/08/14	12:18	14.08	7.30	--	NP	6.78	--
MW-104	03/23/15	13:23	14.08	7.58	--	NP	6.50	--
MW-104	06/22/15	15:22	14.08	8.46	--	NP	5.62	--
MW-104	10/27/16	9:02	14.08	7.12	--	NP	6.96	--
MW-104	07/24/17	11:43	14.08	8.35	--	NP	5.73	--
MW-104	03/19/18	12:27	14.08	7.99	--	NP	6.09	--
MW-104	06/26/18	10:00	14.08	8.71	--	NP	5.37	--
MW-104	09/21/18	9:02	14.08	8.54	--	NP	5.54	--
MW-104	11/26/18	12:53	14.08	7.82	--	NP	6.26	PID: 0.2
MW-104	03/18/19	9:21	14.08	8.23	--	NP	5.85	--
MW-104	06/17/19	11:07	14.08	8.47	--	NP	5.61	--
MW-104	09/16/19	12:06	14.08	8.23	--	NP	5.85	--
MW-104	12/10/19	9:36	14.08	8.18	--	NP	5.90	--
MW-104	03/12/20	13:20	14.08	8.36	--	NP	5.72	--
MW-104	06/22/20	12:15	14.08	8.48	--	NP	5.60	--
MW-104	09/18/20	12:40	14.08	8.48	--	NP	5.60	--
MW-104	11/02/20	11:36	14.08	9.33	--	NP	4.75	--
MW-108	10/20/08	16:11	12.40	6.31	--	NP	6.09	--
MW-108	12/08/08	10:59	12.40	7.80	--	NP	4.60	--
MW-108	02/20/09	9:58	12.40	6.54	--	NP	5.86	--
MW-108	04/20/09	9:51	12.40	6.48	--	NP	5.92	--
MW-108	06/22/09	11:38	12.40	6.68	--	NP	5.72	--
MW-108	08/03/09	11:20	12.40	6.75	--	NP	5.65	--
MW-108	08/17/09	9:29	12.40	6.80	--	NP	5.60	--
MW-108	10/29/09	9:43	12.40	7.45	--	NP	4.95	--
MW-108	01/18/10	13:49	12.40	6.42	--	NP	5.98	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-108	04/19/10	15:16	12.40	6.07	--	NP	6.33	--
MW-108	07/19/10	7:27	12.40	6.42	--	NP	5.98	--
MW-108	10/25/10	13:58	12.40	5.66	--	NP	6.74	--
MW-108	03/21/11	12:34	12.40	5.81	--	NP	6.59	--
MW-108	06/14/11	10:49	12.40	6.38	--	NP	6.02	--
MW-108	09/26/11	9:27	12.40	6.56	--	NP	5.84	--
MW-108	12/12/11	12:47	12.40	6.37	--	NP	6.03	--
MW-108	03/27/12	14:11	12.40	5.91	--	NP	6.49	--
MW-108	06/27/12	17:19	12.40	6.03	--	NP	6.37	--
MW-108	09/25/12	7:43	12.40	6.49	--	NP	5.91	--
MW-108	12/13/12	10:06	12.40	5.76	--	NP	6.64	--
MW-108	03/25/13	11:30	12.40	5.52	--	NP	6.88	--
MW-108	06/24/13	12:48	12.40	5.91	--	NP	6.49	--
MW-108	09/23/13	13:58	12.40	6.25	--	NP	6.15	--
MW-108	12/16/13	11:37	12.40	6.45	--	NP	5.95	--
MW-108	03/26/14	8:17	12.40	5.80	--	NP	6.60	--
MW-108	06/16/14	13:10	12.40	6.05	--	NP	6.35	--
MW-108	09/29/14	14:45	12.40	6.23	--	NP	6.17	--
MW-108	12/08/14	12:20	12.40	6.03	--	NP	6.37	--
MW-108	03/23/15	14:59	12.40	6.03	--	NP	6.37	--
MW-108	06/22/15	15:49	12.40	6.44	--	NP	5.96	--
MW-108	10/27/16	10:16	12.40	6.05	--	NP	6.35	--
MW-108	07/24/17	11:25	12.40	7.08	--	NP	5.32	--
MW-108	03/19/18	13:38	12.40	5.81	--	NP	6.59	--
MW-108	06/26/18	9:59	12.40	6.44	--	NP	5.96	--
MW-108	09/21/18	8:33	12.40	6.12	--	NP	6.28	--
MW-108	11/26/18	13:14	12.40	5.35	--	NP	7.05	--
MW-108	03/18/19	9:01	12.40	5.65	--	NP	6.75	--
MW-108	06/17/19	11:41	12.40	5.83	--	NP	6.57	--
MW-108	09/16/19	13:04	12.40	5.74	--	NP	6.66	--
MW-108	12/10/19	9:48	12.40	5.99	--	NP	6.41	--
MW-108	03/12/20	13:04	12.40	5.65	--	NP	6.75	--
MW-108	06/22/20	11:41	12.40	5.73	--	NP	6.67	--
MW-108	09/18/20	12:05	12.40	5.78	--	NP	6.62	--
MW-108	11/02/20	11:41	12.40	5.75	--	NP	6.65	--
MW-109	10/20/08	16:15	13.53	6.98	--	NP	6.55	--
MW-109	12/08/08	11:02	13.53	7.38	--	NP	6.15	--
MW-109	02/20/09	10:00	13.53	7.36	--	NP	6.17	--
MW-109	04/20/09	9:53	13.53	7.30	--	NP	6.23	--
MW-109	06/22/09	11:41	13.53	7.15	--	NP	6.38	--
MW-109	08/03/09	11:22	13.53	7.56	--	NP	5.97	--
MW-109	08/17/09	9:32	13.53	7.60	--	NP	5.93	--
MW-109	10/29/09	9:41	13.53	7.39	--	NP	6.14	--
MW-109	01/18/10	13:51	13.53	6.46	--	NP	7.07	--
MW-109	04/19/10	15:20	13.53	6.87	--	NP	6.66	--
MW-109	07/19/10	7:33	13.53	7.40	--	NP	6.13	--
MW-109	10/25/10	13:58	13.53	6.40	--	NP	7.13	--
MW-109	03/21/11	12:32	13.53	6.74	--	NP	6.79	--
MW-109	06/14/11	10:44	13.53	6.95	--	NP	6.58	--
MW-109	09/26/11	9:49	13.53	7.15	--	NP	6.38	--
MW-109	12/12/11	12:50	13.53	2.33	--	NP	11.20	--
MW-109	03/27/12	14:14	13.53	6.76	--	NP	6.77	--
MW-109	06/27/12	17:22	13.53	7.12	--	NP	6.41	--
MW-109	09/25/12	7:45	13.53	7.51	--	NP	6.02	--
MW-109	12/13/12	10:02	13.53	6.68	--	NP	6.85	--
MW-109	03/25/13	11:34	13.53	6.91	--	NP	6.62	--
MW-109	06/24/13	12:55	13.53	6.64	--	NP	6.89	--
MW-109	09/23/13	13:58	13.53	6.77	--	NP	6.76	--
MW-109	12/16/13	11:40	13.53	7.57	--	NP	5.96	--
MW-109	03/26/14	8:20	13.53	6.26	--	NP	7.27	--
MW-109	06/16/14	13:03	13.53	6.78	--	NP	6.75	--
MW-109	09/29/14	14:46	13.53	6.85	--	NP	6.68	--
MW-109	12/08/14	12:22	13.53	7.01	--	NP	6.52	--
MW-109	03/23/15	15:00	13.53	6.97	--	NP	6.56	--
MW-109	06/22/15	15:54	13.53	7.54	--	NP	5.99	--
MW-109	10/27/16	10:20	13.53	6.80	--	NP	6.73	--
MW-109	07/24/17	--	--	--	--	--	--	Unable to access
MW-109	03/19/18	13:40	13.53	6.68	--	NP	6.85	--
MW-109	06/26/18	9:54	13.53	7.50	--	NP	6.03	--
MW-109	09/21/18	8:35	13.53	7.13	--	NP	6.40	--
MW-109	11/26/18	13:18	13.53	6.20	--	NP	7.33	--
MW-109	03/18/19	8:59	13.53	6.60	--	NP	6.93	--
MW-109	06/17/19	11:33	13.53	6.81	--	NP	6.72	--
MW-109	09/16/19	13:08	13.53	6.78	--	NP	6.75	--
MW-109	12/10/19	9:52	13.53	7.21	--	NP	6.32	--
MW-109	03/12/20	13:06	13.53	6.59	--	NP	6.94	--
MW-109	06/22/20	11:47	13.53	6.82	--	NP	6.71	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-109	09/18/20	12:00	13.53	6.78	--	NP	6.75	--
MW-109	11/02/20	11:38	13.53	6.71	--	NP	6.82	--
MW-122	10/20/08	16:32	15.54	8.05	--	NP	7.49	--
MW-122	12/08/08	11:40	15.54	7.87	--	NP	7.67	--
MW-122	02/20/09	10:27	15.54	7.85	--	NP	7.69	--
MW-122	04/20/09	10:13	15.54	7.92	--	NP	7.62	--
MW-122	06/22/09	11:54	15.54	8.21	--	NP	7.33	--
MW-122	08/03/09	10:30	15.54	8.31	--	NP	7.23	--
MW-122	08/17/09	9:42	15.54	8.41	--	NP	7.13	--
MW-122	10/29/09	9:35	15.54	7.78	--	NP	7.76	--
MW-122	01/18/10	14:10	15.54	7.35	--	NP	8.19	--
MW-122	04/19/10	15:43	15.54	7.61	--	NP	7.93	--
MW-122	07/19/10	7:49	15.54	8.00	--	NP	7.54	--
MW-122	10/25/10	14:15	15.54	7.52	--	NP	8.02	--
MW-122	03/21/11	12:46	15.54	7.23	--	NP	8.31	--
MW-122	06/14/11	11:11	15.54	7.90	--	NP	7.64	--
MW-122	09/26/11	11:17	15.54	8.10	--	NP	7.44	--
MW-122	12/12/11	12:44	15.54	7.76	--	NP	7.78	--
MW-122	03/27/12	14:30	15.54	7.31	--	NP	8.23	--
MW-122	06/27/12	17:37	15.54	7.59	--	NP	7.95	--
MW-122	09/25/12	8:08	15.54	8.02	--	NP	7.52	--
MW-122	12/13/12	10:29	15.54	7.15	--	NP	8.39	--
MW-122	03/25/13	10:41	15.54	7.39	--	NP	8.15	--
MW-122	06/24/13	12:08	15.54	7.67	--	NP	7.87	--
MW-122	09/23/13	14:05	15.54	7.74	--	NP	7.80	--
MW-122	12/16/13	10:43	15.54	7.71	--	NP	7.83	--
MW-122	03/26/14	8:33	15.54	7.29	--	NP	8.25	--
MW-122	06/16/14	14:02	15.54	7.77	--	NP	7.77	--
MW-122	09/29/14	14:01	15.54	7.66	--	NP	7.88	--
MW-122	12/08/14	13:15	15.54	7.27	--	NP	8.27	--
MW-122	03/23/15	14:36	15.54	7.53	--	NP	8.01	--
MW-122	06/22/15	15:15	15.54	7.92	--	NP	7.62	--
MW-122	10/27/16	10:00	15.54	7.23	--	NP	8.31	--
MW-122	07/24/17	--	--	--	--	--	--	Deep well - not part of the monitoring network
MW-126	10/20/08	17:05	12.40	4.51	--	NP	7.89	--
MW-126	12/08/08	10:00	12.40	4.17	--	NP	8.23	--
MW-126	02/20/09	9:33	12.40	4.32	--	NP	8.08	--
MW-126	04/20/09	8:59	12.40	4.13	--	NP	8.27	--
MW-126	06/22/09	11:03	12.40	4.54	--	NP	7.86	--
MW-126	08/03/09	10:58	12.40	4.85	--	NP	7.55	--
MW-126	08/17/09	8:44	12.40	4.65	--	NP	7.75	--
MW-126	10/29/09	9:47	12.40	4.00	--	NP	8.40	--
MW-126	01/18/10	13:02	12.40	3.55	--	NP	8.85	--
MW-126	04/19/10	14:10	12.40	3.97	--	NP	8.43	--
MW-126	07/19/10	6:44	12.40	4.72	--	NP	7.68	--
MW-126	10/25/10	13:13	12.40	4.35	--	NP	8.05	--
MW-126	03/21/11	12:08	12.40	3.74	--	NP	8.66	--
MW-126	06/14/11	11:30	12.40	4.49	--	NP	7.91	--
MW-126	09/26/11	10:35	12.40	4.91	--	NP	7.49	--
MW-126	12/12/11	11:51	12.40	4.20	--	NP	8.20	--
MW-126	03/27/12	13:34	12.40	3.85	--	NP	8.55	--
MW-126	06/27/12	16:46	12.40	4.35	--	NP	8.05	--
MW-126	09/25/12	7:21	12.40	4.80	--	NP	7.60	--
MW-126	12/13/12	9:56	12.40	3.68	--	NP	8.72	--
MW-126	03/25/13	11:26	12.40	4.07	--	NP	8.33	--
MW-126	06/24/13	11:11	12.40	4.47	--	NP	7.93	--
MW-126	09/23/13	13:27	12.40	4.57	--	NP	7.83	--
MW-126	12/16/13	9:53	12.40	4.53	--	NP	7.87	--
MW-126	03/26/14	8:04	12.40	3.80	--	NP	8.60	--
MW-126	06/16/14	13:22	12.40	4.39	--	NP	8.01	--
MW-126	09/29/14	14:52	12.40	4.53	--	NP	7.87	--
MW-126	12/08/14	13:18	12.40	3.73	--	NP	8.67	--
MW-126	03/22/15	12:21	12.40	2.84	--	NP	9.56	--
MW-126	06/22/15	15:21	12.40	4.99	--	NP	7.41	--
MW-126	10/27/16	8:58	12.40	3.94	--	NP	8.46	--
MW-126	07/24/17	11:43	12.40	5.95	--	NP	6.45	--
MW-126	03/19/18	12:24	12.40	4.70	--	NP	7.70	--
MW-126	06/26/18	10:03	12.40	4.48	--	NP	7.92	--
MW-126	09/21/18	8:50	12.40	5.74	--	NP	6.66	--
MW-126	11/26/18	12:45	12.40	4.90	--	NP	7.50	--
MW-126	03/18/19	9:48	12.40	4.94	--	NP	7.46	--
MW-126	06/17/19	11:03	12.40	5.58	--	NP	6.82	--
MW-126	09/16/19	12:25	12.40	5.89	--	NP	6.51	--
MW-126	12/10/19	10:13	12.40	5.61	--	NP	6.79	--
MW-126	03/12/20	12:54	12.40	5.15	--	NP	7.25	--
MW-126	06/22/20	11:38	12.40	5.59	--	NP	6.81	--
MW-126	09/18/20	11:40	12.40	6.13	--	NP	6.27	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-126	11/02/20	11:28	12.40	5.82	--	NP	6.58	
MW-129R	10/20/08	16:33	12.92	6.54	--	NP	6.38	--
MW-129R	12/08/08	11:38	12.92	6.78	--	NP	6.14	--
MW-129R	02/20/09	10:30	12.92	6.35	6.34	0.01	6.58	See **
MW-129R	04/20/09	10:15	12.92	6.35	--	NP	6.57	--
MW-129R	06/22/09	11:56	12.92	6.71	--	NP	6.21	--
MW-129R	08/03/09	10:25	12.92	6.90	--	NP	6.02	--
MW-129R	08/17/09	9:44	12.92	6.98	--	<0.01	5.94	Film observed during gauging, sheen observed on purge water
MW-129R	10/29/09	9:34	12.92	6.27	--	NP	6.65	--
MW-129R	01/18/10	14:08	12.92	6.22	--	NP	6.70	--
MW-129R	04/19/10	15:44	12.92	5.88	--	NP	7.04	--
MW-129R	07/19/10	7:45	12.92	6.30	--	NP	6.62	--
MW-129R	10/25/10	14:17	12.92	5.79	--	NP	7.13	--
MW-129R	03/21/11	12:49	12.92	5.31	--	NP	7.61	--
MW-129R	06/14/11	11:07	12.92	6.36	--	NP	6.56	--
MW-129R	09/26/11	11:10	12.92	6.66	--	<0.01	6.26	Film observed during gauging, confirmed with bailer
MW-129R	12/12/11	13:53	12.92	6.31	--	NP	6.61	--
MW-129R	03/27/12	14:37	12.92	5.37	--	NP	7.55	--
MW-129R	06/27/12	17:35	12.92	5.81	--	NP	7.11	--
MW-129R	09/25/12	8:05	12.92	6.44	--	NP	6.48	--
MW-129R	12/13/12	10:20	12.92	5.52	--	NP	7.40	--
MW-129R	03/25/13	10:40	12.92	5.20	--	NP	7.72	--
MW-129R	06/24/13	12:52	12.92	5.71	--	NP	7.21	--
MW-129R	09/23/13	14:42	12.92	6.31	--	NP	6.61	--
MW-129R	12/16/13	10:45	12.92	6.96	--	NP	5.96	--
MW-129R	03/23/14	14:36	12.92	5.90	--	NP	7.02	Sheen observed on purge water
MW-129R	03/26/14	8:31	12.92	5.53	--	NP	7.39	--
MW-129R	06/16/14	13:56	12.92	5.95	--	NP	6.97	--
MW-129R	09/29/14	14:47	12.92	6.18	--	NP	6.74	--
MW-129R	12/08/14	12:46	12.92	5.65	--	NP	7.27	--
MW-129R	06/22/15	15:14	12.92	6.13	--	NP	6.79	--
MW-129R	10/27/16	9:59	12.92	5.59	--	NP	7.33	--
MW-129R	07/24/17	12:57	12.92	5.62	--	NP	7.30	Film observed during gauging, confirmed with bailer
MW-129R	03/19/18	12:45	12.92	5.53	--	NP	7.39	--
MW-129R	06/26/18	10:23	12.92	5.95	--	NP	6.97	--
MW-129R	09/21/18	8:15	12.92	6.00	--	NP	6.92	--
MW-129R	11/26/18	12:29	12.92	5.43	--	NP	7.49	PID: 42.1
MW-129R	02/07/19	10:21	12.92	5.64	--	NP	7.28	Not part of the quarterly monitoring program; gauged out of low tide window
MW-129R	03/18/19	9:36	12.92	5.45	--	NP	7.47	--
MW-129R	06/17/19	11:10	12.92	5.72	--	NP	7.20	--
MW-129R	09/16/19	12:30	12.92	5.68	--	NP	7.24	--
MW-129R	12/10/19	10:08	12.92	5.76	--	NP	7.16	--
MW-129R	03/12/20	13:45	12.92	5.40	--	NP	7.52	--
MW-129R	06/22/20	12:30	12.92	5.38	--	NP	7.54	--
MW-129R	09/18/20	11:50	12.92	5.79	--	NP	7.13	--
MW-129R	11/02/20	11:29	12.92	5.58	--	NP	7.34	
MW-13U	10/20/08	16:46	25.60	17.52	--	NP	8.08	--
MW-13U	12/08/08	12:03	25.60	17.32	--	NP	8.28	--
MW-13U	02/20/09	10:52	25.60	17.29	--	NP	8.31	--
MW-13U	04/20/09	10:35	25.60	17.10	--	NP	8.50	--
MW-13U	06/22/09	11:40	25.60	17.40	--	NP	8.20	--
MW-13U	08/03/09	10:39	25.60	17.53	--	NP	8.07	--
MW-13U	08/17/09	9:55	25.60	17.63	--	NP	7.97	--
MW-13U	10/29/09	9:32	25.60	17.26	--	NP	8.34	--
MW-13U	01/18/10	14:02	25.60	16.21	--	NP	9.39	--
MW-13U	04/19/10	16:06	25.60	16.52	--	NP	9.08	--
MW-13U	07/19/10	8:10	25.60	17.21	--	NP	8.39	--
MW-13U	10/25/10	14:48	25.60	17.25	--	NP	8.35	--
MW-13U	03/21/11	13:03	25.60	16.33	--	NP	9.27	--
MW-13U	06/14/11	11:30	25.60	16.88	--	NP	8.72	--
MW-13U	09/26/11	11:15	25.60	17.34	--	NP	8.26	--
MW-13U	12/12/11	13:24	25.60	16.96	--	NP	8.64	--
MW-13U	03/27/12	14:53	25.60	16.49	--	NP	9.11	--
MW-13U	06/27/12	17:44	25.60	16.92	--	NP	8.68	--
MW-13U	09/25/12	8:28	25.60	17.41	--	NP	8.19	--
MW-13U	12/13/12	10:39	25.60	16.56	--	NP	9.04	--
MW-13U	03/25/13	11:03	25.60	16.78	--	NP	8.82	--
MW-13U	06/24/13	12:37	25.60	17.11	--	NP	8.49	--
MW-13U	09/23/13	13:32	25.60	17.23	--	NP	8.37	--
MW-13U	12/16/13	11:05	25.60	17.30	--	NP	8.30	--
MW-13U	03/26/14	8:28	25.60	16.44	--	NP	9.16	--
MW-13U	06/16/14	14:10	25.60	17.02	--	NP	8.58	--
MW-13U	09/29/14	14:53	25.60	17.22	--	NP	8.38	--
MW-13U	12/08/14	13:09	25.60	16.58	--	NP	9.02	--
MW-13U	03/23/15	14:32	25.60	16.61	--	NP	8.99	--
MW-13U	06/22/15	15:46	25.60	17.13	--	NP	8.47	--
MW-13U	10/27/16	9:40	25.60	16.91	--	NP	8.69	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-13U	07/24/17	12:15	25.60	17.03	--	NP	8.57	--
MW-13U	03/19/18	12:44	25.60	17.03	--	NP	8.57	--
MW-13U	06/26/18	11:20	25.60	17.57	--	NP	8.03	--
MW-13U	09/21/18	9:42	25.60	17.49	--	NP	8.11	--
MW-13U	11/26/18	12:51	25.60	17.30	--	NP	8.30	--
MW-13U	03/18/19	10:06	25.60	17.05	--	NP	8.55	--
MW-13U	06/17/19	10:34	25.60	17.39	--	NP	8.21	--
MW-13U	09/16/19	11:54	25.60	17.40	--	NP	8.20	--
MW-13U	12/10/19	9:02	25.60	17.40	--	NP	8.20	--
MW-13U	03/12/20	12:57	25.60	17.12	--	NP	8.48	--
MW-13U	06/22/20	12:50	25.60	17.19	--	NP	8.41	--
MW-13U	09/18/20	13:09	25.60	17.49	--	NP	8.11	--
MW-13U	11/02/20	12:14	25.60	17.31	--	NP	8.29	--
MW-131	10/20/08	16:17	12.53	6.37	--	NP	6.16	--
MW-131	12/08/08	11:31	12.53	6.10	--	NP	6.43	--
MW-131	02/20/09	10:58	12.53	5.91	--	NP	6.62	--
MW-131	04/20/09	8:42	12.53	5.75	--	NP	6.78	--
MW-131	06/22/09	11:46	12.53	6.27	--	NP	6.26	--
MW-131	08/03/09	11:31	12.53	6.45	--	NP	6.08	--
MW-131	08/17/09	9:32	12.53	6.46	--	NP	6.07	--
MW-131	10/29/09	9:30	12.53	5.70	--	NP	6.83	--
MW-131	01/18/10	13:46	12.53	4.81	--	NP	7.72	--
MW-131	04/19/10	15:32	12.53	5.49	--	NP	7.04	--
MW-131	07/19/10	8:36	12.53	6.11	--	NP	6.42	--
MW-131	10/25/10	14:12	12.53	5.83	--	NP	6.70	--
MW-131	03/21/11	12:42	12.53	4.83	--	NP	7.70	--
MW-131	06/14/11	10:53	12.53	5.95	--	NP	6.58	--
MW-131	09/26/11	11:04	12.53	6.40	--	NP	6.13	--
MW-131	12/12/11	12:11	12.53	5.84	--	NP	6.69	--
MW-131	03/27/12	14:20	12.53	5.24	--	NP	7.29	--
MW-131	06/27/12	17:28	12.53	5.68	--	NP	6.85	--
MW-131	09/25/12	8:00	12.53	6.34	--	NP	6.19	--
MW-131	12/13/12	10:54	12.53	5.19	--	NP	7.34	--
MW-131	03/25/13	10:45	12.53	5.12	--	NP	7.41	--
MW-131	06/24/13	12:05	12.53	5.92	--	NP	6.61	--
MW-131	09/23/13	14:02	12.53	6.05	--	NP	6.48	--
MW-131	12/16/13	10:32	12.53	6.04	--	NP	6.49	--
MW-131	03/26/14	9:11	12.53	5.51	--	NP	7.02	--
MW-131	06/16/14	13:52	12.53	5.95	--	NP	6.58	--
MW-131	09/29/14	13:57	12.53	5.93	--	NP	6.60	--
MW-131	12/08/14	12:50	12.53	5.36	--	NP	7.17	--
MW-131	03/23/15	14:03	12.53	5.38	--	NP	7.15	--
MW-131	06/22/15	15:19	12.53	6.15	--	NP	6.38	--
MW-131	10/27/16	9:50	12.53	4.98	--	NP	7.55	--
MW-131	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
MW-131	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
MW-131	06/26/18	10:30	12.53	6.22	--	NP	6.31	Not part of the monitoring network
MW-131	09/21/18	--	12.53	--	--	--	--	Not part of the monitoring network
MW-134X	10/20/08	16:40	35.13	26.58	--	NP	8.55	--
MW-134X	12/08/08	11:57	35.13	26.55	--	NP	8.58	--
MW-134X	02/20/09	10:55	35.13	26.62	--	NP	8.51	--
MW-134X	04/20/09	10:30	35.13	26.43	--	NP	8.70	--
MW-134X	06/22/09	11:35	35.13	26.69	--	NP	8.44	--
MW-134X	08/03/09	10:36	35.13	26.70	--	NP	8.43	--
MW-134X	08/17/09	9:50	35.13	26.79	--	NP	8.34	--
MW-134X	10/29/09	9:25	35.13	26.34	--	NP	8.79	--
MW-134X	01/18/10	13:57	35.13	25.51	--	NP	9.62	--
MW-134X	04/19/10	16:01	35.13	25.64	--	NP	9.49	--
MW-134X	07/19/10	8:06	35.13	26.41	--	NP	8.72	--
MW-134X	10/25/10	14:43	35.13	26.40	--	NP	8.73	--
MW-134X	03/21/11	13:00	35.13	25.65	--	NP	9.48	--
MW-134X	06/14/11	11:22	35.13	26.20	--	NP	8.93	--
MW-134X	09/26/11	11:11	35.13	26.34	--	NP	8.79	--
MW-134X	12/12/11	13:16	35.13	26.21	--	NP	8.92	--
MW-134X	03/27/12	14:48	35.13	25.75	--	NP	9.38	--
MW-134X	06/27/12	17:54	35.13	26.15	--	NP	8.98	--
MW-134X	09/25/12	8:25	35.13	26.50	--	NP	8.63	--
MW-134X	12/13/12	11:00	35.13	25.97	--	NP	9.16	--
MW-134X	03/25/13	11:11	35.13	25.97	--	NP	9.16	--
MW-134X	06/24/13	12:34	35.13	26.14	--	NP	8.99	--
MW-134X	09/23/13	13:43	35.13	26.52	--	NP	8.61	--
MW-134X	12/16/13	11:10	35.13	26.53	--	NP	8.60	--
MW-134X	03/26/14	9:15	35.13	25.61	--	NP	9.52	--
MW-134X	06/16/14	14:02	35.13	26.15	--	NP	8.98	--
MW-134X	09/29/14	15:15	35.13	26.26	--	NP	8.87	--
MW-134X	12/08/14	13:04	35.13	25.89	--	NP	9.24	--
MW-134X	03/23/15	11:53	35.13	25.83	--	NP	9.30	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-134X	06/22/15	15:44	35.13	26.26	--	NP	8.87	--
MW-134X	10/27/16	9:30	35.13	24.16	--	NP	10.97	--
MW-134X	07/24/17	12:31	35.13	26.02	--	NP	9.11	--
MW-134X	03/19/18	12:51	35.13	26.10	--	NP	9.03	--
MW-134X	06/26/18	10:35	35.13	26.41	--	NP	8.72	--
MW-134X	09/21/18	8:56	35.13	26.40	--	NP	8.73	--
MW-134X	11/26/18	12:45	35.13	26.19	--	NP	8.94	--
MW-134X	03/18/19	10:02	35.13	26.05	--	NP	9.08	--
MW-134X	06/17/19	10:44	35.13	26.42	--	NP	8.71	--
MW-134X	09/16/19	12:02	35.13	26.41	--	NP	8.72	--
MW-134X	12/10/19	9:13	35.13	26.48	--	NP	8.65	--
MW-134X	03/12/20	13:09	35.13	26.25	--	NP	8.88	--
MW-134X	06/22/20	13:00	35.13	26.30	--	NP	8.83	--
MW-134X	09/18/20	13:00	35.13	26.37	--	NP	8.76	--
MW-134X	11/02/20	12:28	35.13	26.22	--	NP	8.91	--
MW-135	10/20/08	16:35	18.13	10.06	--	NP	8.07	--
MW-135	12/08/08	11:47	18.13	11.43	--	NP	6.70	--
MW-135	02/20/09	10:47	18.13	10.14	--	NP	7.99	--
MW-135	04/20/09	10:22	18.13	11.17	--	NP	6.96	--
MW-135	06/22/09	11:23	18.13	10.84	--	NP	7.29	--
MW-135	08/03/09	10:13	18.13	11.04	--	NP	7.09	--
MW-135	08/17/09	9:55	18.13	11.16	--	NP	6.97	--
MW-135	10/29/09	10:15	18.13	11.00	--	NP	7.13	--
MW-135	01/18/10	13:05	18.13	10.20	--	NP	7.93	--
MW-135	04/19/10	15:54	18.13	10.78	--	NP	7.35	--
MW-135	07/19/10	7:52	18.13	10.97	--	NP	7.16	--
MW-135	10/25/10	14:26	18.13	10.75	--	NP	7.38	--
MW-135	03/21/11	12:56	18.13	10.53	--	NP	7.60	--
MW-135	06/14/11	11:26	18.13	10.05	--	NP	8.08	--
MW-135	09/26/11	11:05	18.13	11.25	--	NP	6.88	--
MW-135	12/12/11	13:08	18.13	11.01	--	NP	7.12	--
MW-135	03/27/12	14:41	18.13	10.61	--	NP	7.52	--
MW-135	06/27/12	17:43	18.13	10.41	--	NP	7.72	--
MW-135	09/25/12	8:15	18.13	11.19	--	NP	6.94	--
MW-135	12/13/12	10:32	18.13	10.48	--	NP	7.65	--
MW-135	03/25/13	10:40	18.13	10.46	--	NP	7.67	--
MW-135	06/24/13	12:27	18.13	10.62	--	NP	7.51	--
MW-135	09/23/13	13:56	18.13	11.00	--	NP	7.13	--
MW-135	12/16/13	10:38	18.13	11.56	--	NP	6.57	--
MW-135	03/26/14	--	18.13	--	--	--	--	--
MW-135	06/16/14	13:20	18.13	10.78	--	NP	7.35	--
MW-135	09/29/14	14:35	18.13	10.99	--	NP	7.14	--
MW-135	12/08/14	13:17	18.13	10.77	--	NP	7.36	--
MW-135	03/23/15	14:50	18.13	10.35	--	NP	7.78	--
MW-135	06/22/15	14:41	18.13	11.10	--	NP	7.03	--
MW-135	10/27/16	9:40	18.13	10.69	--	NP	7.44	--
MW-135	07/24/17	11:50	18.13	10.88	--	NP	7.25	--
MW-135	03/19/18	12:34	18.13	10.51	--	NP	7.62	--
MW-135	06/26/18	9:57	18.13	11.59	--	NP	6.54	--
MW-135	09/21/18	9:18	18.13	11.21	--	NP	6.92	--
MW-135	11/26/18	12:39	18.13	11.09	--	NP	7.04	--
MW-135	03/18/19	9:57	18.13	10.76	--	NP	7.37	--
MW-135	06/17/19	10:58	18.13	11.06	--	NP	7.07	--
MW-135	09/16/19	12:20	18.13	11.01	--	NP	7.12	--
MW-135	12/10/19	9:49	18.13	8.19	--	NP	9.94	--
MW-135	03/12/20	13:26	18.13	10.69	--	NP	7.44	--
MW-135	06/22/20	13:45	18.13	11.49	--	NP	6.64	Gauged within 1:37 hour of low tide.
MW-135	09/18/20	12:44	18.13	11.02	--	NP	7.11	--
MW-135	11/02/20	12:16	18.13	11.05	--	NP	7.08	--
MW-136	10/27/08	13:35	15.99	8.13	--	NP	7.86	--
MW-136	12/08/08	11:49	15.99	8.06	--	NP	7.93	--
MW-136	02/20/09	10:50	15.99	7.80	--	NP	8.19	--
MW-136	04/20/09	10:25	15.99	7.73	--	NP	8.26	--
MW-136	06/22/09	11:25	15.99	8.00	--	NP	7.99	--
MW-136	08/03/09	10:14	15.99	8.74	--	NP	7.25	--
MW-136	08/17/09	9:57	15.99	9.78	--	NP	6.21	--
MW-136	10/29/09	10:20	15.99	7.84	--	NP	8.15	--
MW-136	01/18/10	13:02	15.99	7.08	--	NP	8.91	--
MW-136	04/19/10	15:55	15.99	7.63	--	NP	8.36	--
MW-136	07/19/10	7:55	15.99	8.06	--	NP	7.93	--
MW-136	10/25/10	14:23	15.99	7.91	--	NP	8.08	--
MW-136	03/21/11	12:56	15.99	6.22	--	NP	9.77	--
MW-136	06/14/11	11:23	15.99	7.77	--	NP	8.22	--
MW-136	09/26/11	11:23	15.99	8.70	--	NP	7.29	--
MW-136	12/12/11	13:10	15.99	7.69	--	NP	8.30	--
MW-136	03/27/12	14:43	15.99	7.44	--	NP	8.55	--
MW-136	06/27/12	17:45	15.99	7.79	--	NP	8.20	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-136	09/25/12	8:05	15.99	8.31	--	NP	7.68	--
MW-136	12/13/12	10:25	15.99	6.78	--	NP	9.21	--
MW-136	03/25/13	10:35	15.99	7.46	--	NP	8.53	--
MW-136	06/24/13	12:28	15.99	7.86	--	NP	8.13	--
MW-136	09/23/13	13:55	15.99	8.01	--	NP	7.98	--
MW-136	12/16/13	10:50	15.99	7.80	--	NP	8.19	--
MW-136	03/26/14	9:02	15.99	6.85	--	NP	9.14	--
MW-136	06/16/14	13:32	15.99	7.80	--	NP	8.19	--
MW-136	09/29/14	15:20	15.99	7.72	--	NP	8.27	--
MW-136	12/08/14	13:15	15.99	7.11	--	NP	8.88	--
MW-136	03/23/15	14:25	15.99	7.04	--	NP	8.95	--
MW-136	06/22/15	14:43	15.99	7.86	--	NP	8.13	--
MW-136	10/27/16	9:32	15.99	7.40	--	NP	8.59	--
MW-136	07/24/17	11:52	15.99	8.12	--	NP	7.87	--
MW-136	03/19/18	12:49	15.99	7.88	--	NP	8.11	--
MW-136	06/26/18	11:28	15.99	8.32	--	NP	7.67	--
MW-136	09/21/18	9:17	15.99	8.25	--	NP	7.74	--
MW-136	11/26/18	12:38	15.99	8.03	--	NP	7.96	--
MW-136	03/18/19	9:54	15.99	7.74	--	NP	8.25	--
MW-136	06/17/19	10:50	15.99	7.40	--	NP	8.59	--
MW-136	09/16/19	12:11	15.99	8.27	--	NP	7.72	--
MW-136	12/10/19	9:39	15.99	8.45	--	NP	7.54	--
MW-136	03/12/20	13:47	15.99	7.92	--	NP	8.07	--
MW-136	06/22/20	12:49	15.99	8.22	--	NP	7.77	--
MW-136	09/18/20	12:48	15.99	8.39	--	NP	7.60	--
MW-136	11/02/20	12:12	15.99	8.17	--	NP	7.82	--
MW-139R	10/20/08	15:59	13.84	7.57	--	NP	6.27	--
MW-139R	12/08/08	10:46	13.84	7.17	--	NP	6.67	--
MW-139R	02/20/09	9:48	13.84	6.96	--	NP	6.88	--
MW-139R	04/20/09	9:38	13.84	6.77	--	NP	7.07	--
MW-139R	06/22/09	11:27	13.84	7.34	--	NP	6.50	--
MW-139R	08/03/09	11:12	13.84	7.54	--	NP	6.30	--
MW-139R	08/17/09	9:21	13.84	7.62	--	NP	6.22	--
MW-139R	10/29/09	9:23	13.84	6.93	--	NP	6.91	--
MW-139R	01/18/10	13:45	13.84	5.43	--	NP	8.41	--
MW-139R	04/19/10	14:58	13.84	6.51	--	NP	7.33	--
MW-139R	07/19/10	7:15	13.84	7.36	--	NP	6.48	--
MW-139R	10/25/10	13:48	13.84	7.08	--	NP	6.76	--
MW-139R	03/21/11	12:27	13.84	5.89	--	NP	7.95	--
MW-139R	06/14/11	10:39	13.84	7.01	--	NP	6.83	--
MW-139R	09/26/11	10:53	13.84	7.62	--	NP	6.22	--
MW-139R	12/12/11	12:07	13.84	6.95	--	NP	6.89	--
MW-139R	03/27/12	13:59	13.84	6.35	--	NP	7.49	--
MW-139R	06/27/12	17:05	13.84	6.92	--	NP	6.92	--
MW-139R	09/25/12	7:38	13.84	7.62	--	NP	6.22	--
MW-139R	12/13/12	10:12	13.84	6.33	--	NP	7.51	--
MW-139R	03/25/13	10:14	13.84	6.75	--	NP	7.09	--
MW-139R	06/24/13	11:32	13.84	7.31	--	NP	6.53	--
MW-139R	09/23/13	13:44	13.84	7.20	--	NP	6.64	--
MW-139R	12/16/13	11:23	13.84	7.38	--	NP	6.46	--
MW-139R	03/26/14	8:22	13.84	6.50	--	NP	7.34	--
MW-139R	06/16/14	13:34	13.84	7.23	--	NP	6.61	--
MW-139R	09/29/14	13:44	13.84	7.15	--	NP	6.69	--
MW-139R	12/08/14	12:36	13.84	6.50	--	NP	7.34	--
MW-139R	03/23/15	13:49	13.84	6.56	--	NP	7.28	--
MW-139R	06/22/15	15:26	13.84	7.35	--	NP	6.49	--
MW-139R	10/27/16	9:18	13.84	6.04	--	NP	7.80	--
MW-139R	07/24/17	11:50	13.84	7.42	--	NP	6.42	--
MW-139R	03/19/18	12:33	13.84	7.01	--	NP	6.83	--
MW-139R	06/26/18	10:17	13.84	7.63	--	NP	6.21	--
MW-139R	09/21/18	9:13	13.84	7.40	--	NP	6.44	--
MW-139R	11/26/18	13:05	13.84	7.16	--	NP	6.68	--
MW-139R	03/18/19	9:18	13.84	7.18	--	NP	6.66	--
MW-139R	06/17/19	11:19	13.84	7.22	--	NP	6.62	--
MW-139R	09/16/19	12:11	13.84	7.18	--	NP	6.66	--
MW-139R	12/10/19	9:42	13.84	7.36	--	NP	6.48	--
MW-139R	03/12/20	13:16	13.84	7.10	--	NP	6.74	--
MW-139R	06/22/20	12:09	13.84	7.09	--	NP	6.75	--
MW-139R	09/18/20	11:26	13.84	7.31	--	NP	6.53	--
MW-139R	11/02/20	11:26	13.84	7.22	--	NP	6.62	--
MW-143	10/22/08	12:25	11.94	4.55	--	NP	7.39	--
MW-143	12/16/08	10:16	11.94	4.08	--	NP	7.86	--
MW-143	02/20/09	10:18	11.94	4.02	--	NP	7.92	--
MW-143	04/20/09	9:31	11.94	3.79	--	NP	8.15	--
MW-143	06/22/09	11:05	11.94	4.45	--	NP	7.49	--
MW-143	08/03/09	10:57	11.94	4.70	--	NP	7.24	--
MW-143	08/17/09	8:45	11.94	4.69	--	NP	7.25	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-143	10/29/09	9:50	11.94	4.07	--	NP	7.87	--
MW-143	01/18/10	13:07	11.94	2.81	--	NP	9.13	--
MW-143	04/19/10	14:12	11.94	3.46	--	NP	8.48	--
MW-143	07/19/10	6:44	11.94	4.47	--	NP	7.47	--
MW-143	10/25/10	13:18	11.94	3.17	--	NP	8.77	--
MW-143	03/21/11	12:06	11.94	3.80	--	NP	8.14	--
MW-143	06/14/11	11:31	11.94	4.14	--	NP	7.80	--
MW-143	09/26/11	10:36	11.94	2.90	--	NP	9.04	--
MW-143	12/12/11	11:50	11.94	3.84	--	NP	8.10	--
MW-143	03/27/12	13:36	11.94	3.83	--	NP	8.11	--
MW-143	06/27/12	16:44	11.94	4.13	--	NP	7.81	--
MW-143	09/25/12	7:22	11.94	4.76	--	NP	7.18	--
MW-143	12/13/12	9:58	11.94	3.52	--	NP	8.42	--
MW-143	03/25/13	10:14	11.94	3.63	--	NP	8.31	--
MW-143	06/24/13	11:13	11.94	3.65	--	NP	8.29	--
MW-143	09/23/13	13:26	11.94	4.46	--	NP	7.48	--
MW-143	12/16/13	9:50	11.94	4.35	--	NP	7.59	--
MW-143	03/26/14	8:18	11.94	3.66	--	NP	8.28	--
MW-143	06/16/14	14:09	11.94	4.34	--	NP	7.60	--
MW-143	09/29/14	14:53	11.94	4.45	--	NP	7.49	--
MW-143	12/08/14	11:35	11.94	3.70	--	NP	8.24	--
MW-143	03/23/15	13:19	11.94	3.56	--	NP	8.38	--
MW-143	06/22/15	15:19	11.94	4.65	--	NP	7.29	--
MW-143	10/27/16	10:00	11.94	4.83	--	NP	7.11	--
MW-143	07/24/17	11:41	11.94	5.65	--	NP	6.29	--
MW-143	03/19/18	12:23	11.94	4.53	--	NP	7.41	--
MW-143	06/26/18	10:00	11.94	4.57	--	NP	7.37	--
MW-143	09/21/18	8:48	11.94	5.76	--	NP	6.18	--
MW-143	11/26/18	12:44	11.94	5.04	--	NP	6.90	PID: 13.6
MW-143	03/18/19	9:50	11.94	5.01	--	NP	6.93	--
MW-143	06/17/19	11:01	11.94	5.76	--	NP	6.18	--
MW-143	09/16/19	12:27	11.94	4.36	--	NP	7.58	--
MW-143	12/10/19	10:18	11.94	4.34	--	NP	7.60	--
MW-143	03/12/20	12:57	11.94	4.02	--	NP	7.92	--
MW-143	06/22/20	11:39	11.94	5.43	--	NP	6.51	--
MW-143	09/18/20	11:42	11.94	5.90	--	NP	6.04	--
MW-143	11/02/20	11:32	11.94	4.74	--	NP	7.20	--
MW-147	10/20/08	15:45	11.02	5.69	--	NP	5.33	--
MW-147	12/08/08	10:13	11.02	5.51	--	NP	5.51	--
MW-147	02/20/09	9:13	11.02	5.35	--	NP	5.67	--
MW-147	04/20/09	9:13	11.02	5.76	--	NP	5.26	--
MW-147	06/22/09	11:08	11.02	5.67	--	NP	5.35	--
MW-147	08/03/09	10:50	11.02	5.72	--	NP	5.30	--
MW-147	08/17/09	8:51	11.02	5.99	--	NP	5.03	--
MW-147	10/29/09	8:48	11.02	5.01	--	NP	6.01	--
MW-147	01/18/10	13:18	11.02	2.86	--	NP	8.16	--
MW-147	04/19/10	14:25	11.02	5.12	--	NP	5.90	--
MW-147	07/19/10	6:58	11.02	5.93	--	NP	5.09	--
MW-147	10/25/10	13:28	11.02	4.74	--	NP	6.28	--
MW-147	03/21/11	12:15	11.02	4.07	--	NP	6.95	--
MW-147	06/14/11	9:56	11.02	5.70	--	NP	5.32	--
MW-147	09/26/11	10:39	11.02	8.78	--	NP	2.24	--
MW-147	12/12/11	11:34	11.02	5.58	--	NP	5.44	--
MW-147	03/27/12	13:43	11.02	4.70	--	NP	6.32	--
MW-147	06/27/12	16:35	11.02	5.37	--	NP	5.65	--
MW-147	09/25/12	7:25	11.02	5.98	--	NP	5.04	--
MW-147	12/13/12	9:46	11.02	4.26	--	NP	6.76	--
MW-147	03/25/13	9:56	11.02	5.57	--	NP	5.45	--
MW-147	06/24/13	11:16	11.02	5.64	--	NP	5.38	--
MW-147	09/23/13	13:23	11.02	5.33	--	NP	5.69	--
MW-147	12/16/13	9:46	11.02	5.80	--	NP	5.22	--
MW-147	03/26/14	7:42	11.02	4.96	--	NP	6.06	--
MW-147	06/16/14	13:12	11.02	5.70	--	NP	5.32	--
MW-147	09/29/14	13:23	11.02	5.16	--	NP	5.86	--
MW-147	12/08/14	11:30	11.02	4.41	--	NP	6.61	--
MW-147	03/23/15	13:04	11.02	4.95	--	NP	6.07	--
MW-147	06/22/15	15:12	11.02	5.86	--	NP	5.16	--
MW-147	10/27/16	8:52	11.02	3.95	--	NP	7.07	--
MW-147	07/24/17	11:28	11.02	5.78	--	NP	5.24	--
MW-147	03/19/18	12:11	11.02	5.31	--	NP	5.71	--
MW-147	06/26/18	9:50	11.02	5.96	--	NP	5.06	--
MW-147	09/21/18	8:31	11.02	5.84	--	NP	5.18	--
MW-147	11/26/18	12:33	11.02	4.88	--	NP	6.14	--
MW-147	03/18/19	9:08	11.02	8.12	--	NP	2.90	Depth to water value is an anomalie
MW-147	06/17/19	10:45	11.02	5.90	--	NP	5.12	--
MW-147	09/16/19	12:00	11.02	5.54	--	NP	5.48	--
MW-147	12/10/19	9:22	11.02	5.29	--	NP	5.73	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-147	03/12/20	13:11	11.02	5.62	--	NP	5.40	--
MW-147	06/22/20	12:23	11.02	5.86	--	NP	5.16	--
MW-147	09/18/20	12:16	11.02	5.80	--	NP	5.22	--
MW-147	11/02/20	11:56	11.02	5.73	--	NP	5.29	--
MW-149R	10/20/08	15:42	12.18	6.76	--	NP	5.42	--
MW-149R	12/08/08	10:07	12.18	6.70	--	NP	5.48	--
MW-149R	02/20/09	9:10	12.18	6.57	--	NP	5.61	--
MW-149R	04/20/09	9:06	12.18	7.09	--	NP	5.09	--
MW-149R	06/22/09	11:10	12.18	7.22	--	NP	4.96	--
MW-149R	08/03/09	10:46	12.18	7.33	--	NP	4.85	--
MW-149R	08/17/09	8:48	12.18	7.69	--	NP	4.49	--
MW-149R	10/29/09	8:50	12.18	6.77	--	NP	5.41	--
MW-149R	01/18/10	13:15	12.18	3.90	--	NP	8.28	--
MW-149R	04/19/10	14:20	12.18	6.76	--	NP	5.42	--
MW-149R	07/19/10	6:50	12.18	7.56	--	NP	4.62	--
MW-149R	10/25/10	13:23	12.18	6.13	--	NP	6.05	--
MW-149R	03/21/11	12:13	12.18	5.39	--	NP	6.79	--
MW-149R	06/14/11	9:44	12.18	7.27	--	NP	4.91	--
MW-149R	09/26/11	10:44	12.18	7.19	--	NP	4.99	--
MW-149R	12/12/11	11:29	12.18	6.74	--	NP	5.44	--
MW-149R	03/27/12	13:41	12.18	6.07	--	NP	6.11	--
MW-149R	06/27/12	16:30	12.18	6.75	--	NP	5.43	--
MW-149R	09/25/12	7:14	12.18	7.58	--	NP	4.60	--
MW-149R	12/13/12	9:41	12.18	5.34	--	NP	6.84	--
MW-149R	03/25/13	9:49	12.18	6.95	--	NP	5.23	--
MW-149R	06/24/13	11:17	12.18	7.24	--	NP	4.94	--
MW-149R	09/23/13	13:14	12.18	6.60	--	NP	5.58	--
MW-149R	12/16/13	9:33	12.18	6.90	--	NP	5.28	--
MW-149R	03/26/14	7:35	12.18	6.08	--	NP	6.10	--
MW-149R	06/16/14	13:05	12.18	7.28	--	NP	4.90	--
MW-149R	09/29/14	13:17	12.18	6.43	--	NP	5.75	--
MW-149R	12/08/14	11:27	12.18	5.59	--	NP	6.59	--
MW-149R	03/23/15	13:00	12.18	6.21	--	NP	5.97	--
MW-149R	06/22/15	15:01	12.18	7.34	--	NP	4.84	--
MW-149R	10/27/16	8:44	12.18	5.41	--	NP	6.77	--
MW-149R	07/24/17	11:21	12.18	7.28	--	NP	4.90	--
MW-149R	03/19/18	12:09	12.18	6.49	--	NP	5.69	--
MW-149R	06/26/18	9:38	12.18	7.40	--	NP	4.78	--
MW-149R	09/21/18	8:24	12.18	7.34	--	NP	4.84	--
MW-149R	11/26/18	12:26	12.18	5.94	--	NP	6.24	--
MW-149R	03/18/19	9:00	12.18	6.67	--	NP	5.51	--
MW-149R	06/17/19	10:33	12.18	7.38	--	NP	4.80	--
MW-149R	09/16/19	11:57	12.18	6.85	--	NP	5.33	--
MW-149R	12/10/19	9:16	12.18	6.41	--	NP	5.77	--
MW-149R	03/12/20	13:07	12.18	6.88	--	NP	5.30	--
MW-149R	06/22/20	12:28	12.18	7.41	--	NP	4.77	--
MW-149R	09/18/20	12:24	12.18	7.26	--	NP	4.92	--
MW-149R	11/02/20	12:04	12.18	6.92	--	NP	5.26	--
MW-150	10/20/08	15:41	12.36	7.21	--	NP	5.15	--
MW-150	12/08/08	10:05	12.36	6.90	--	NP	5.46	--
MW-150	02/20/09	9:07	12.36	6.76	--	NP	5.60	--
MW-150	04/20/09	9:04	12.36	6.89	--	NP	5.47	--
MW-150	06/22/09	11:12	12.36	6.81	--	NP	5.55	--
MW-150	08/03/09	10:44	12.36	6.95	--	NP	5.41	--
MW-150	08/17/09	8:46	12.36	7.15	--	NP	5.21	--
MW-150	10/29/09	8:48	12.36	6.44	--	NP	5.92	--
MW-150	01/18/10	13:14	12.36	4.20	--	NP	8.16	--
MW-150	04/19/10	14:18	12.36	6.34	--	NP	6.02	--
MW-150	07/19/10	6:47	12.36	7.07	--	NP	5.29	--
MW-150	10/25/10	13:25	12.36	6.55	--	NP	5.81	--
MW-150	03/21/11	12:11	12.36	4.93	--	NP	7.43	--
MW-150	06/14/11	9:40	12.36	6.75	--	NP	5.61	--
MW-150	09/26/11	10:43	12.36	7.15	--	NP	5.21	--
MW-150	12/12/11	11:30	12.36	6.89	--	NP	5.47	--
MW-150	03/27/12	13:38	12.36	5.81	--	NP	6.55	--
MW-150	06/27/12	16:28	12.36	6.61	--	NP	5.75	--
MW-150	09/25/12	7:10	12.36	DRY	DRY	DRY	DRY	--
MW-150	12/13/12	9:42	12.36	5.36	--	NP	7.00	--
MW-150	03/25/13	9:46	12.36	6.62	--	NP	5.74	--
MW-150	06/24/13	11:15	12.36	6.98	--	NP	5.38	--
MW-150	09/23/13	13:15	12.36	6.81	--	NP	5.55	--
MW-150	12/16/13	9:30	12.36	7.17	--	NP	5.19	--
MW-150	03/26/14	7:32	12.36	6.09	--	NP	6.27	--
MW-150	06/16/14	13:08	12.36	6.95	--	NP	5.41	--
MW-150	09/29/14	13:15	12.36	6.55	--	NP	5.81	--
MW-150	12/08/14	11:25	12.36	5.90	--	NP	6.46	--
MW-150	03/23/15	12:57	12.36	5.96	--	NP	6.40	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-150	06/22/15	15:07	12.36	6.99	--	NP	5.37	--
MW-150	10/27/16	8:42	12.36	5.28	--	NP	7.08	--
MW-150	07/24/17	11:19	12.36	6.96	--	NP	5.40	--
MW-150	03/19/18	12:09	12.36	6.36	--	NP	6.00	--
MW-150	06/26/18	9:40	12.36	7.02	--	NP	5.34	--
MW-150	09/21/18	8:20	12.36	7.14	--	NP	5.22	--
MW-150	11/26/18	12:24	12.36	6.22	--	NP	6.14	--
MW-150	03/18/19	8:59	12.36	6.68	--	NP	5.68	--
MW-150	06/17/19	10:35	12.36	7.11	--	NP	5.25	--
MW-150	09/16/19	11:55	12.36	6.91	--	NP	5.45	--
MW-150	12/10/19	9:14	12.36	6.64	--	NP	5.72	--
MW-150	03/12/20	13:05	12.36	6.63	--	NP	5.73	--
MW-150	06/22/20	12:29	12.36	6.92	--	NP	5.44	--
MW-150	09/18/20	12:50	12.36	7.12	--	NP	5.24	--
MW-150	11/02/20	12:08	12.36	7.15	--	NP	5.21	--
MW-151	10/20/08	15:39	11.05	5.76	--	NP	5.29	--
MW-151	12/08/08	10:02	11.05	5.41	--	NP	5.64	--
MW-151	02/20/09	9:16	11.05	5.28	--	NP	5.77	--
MW-151	04/20/09	9:10	11.05	5.24	--	NP	5.81	--
MW-151	06/22/09	11:07	11.05	5.52	--	NP	5.53	--
MW-151	08/03/09	10:48	11.05	5.64	--	NP	5.41	--
MW-151	08/17/09	8:51	11.05	5.82	--	NP	5.23	--
MW-151	10/29/09	8:42	11.05	4.44	--	NP	6.61	--
MW-151	01/18/10	13:10	11.05	1.26	--	NP	9.79	--
MW-151	04/19/10	14:15	11.05	4.77	--	NP	6.28	--
MW-151	07/19/10	6:53	11.05	7.80	--	NP	3.25	--
MW-151	10/25/10	13:21	11.05	4.63	--	NP	6.42	--
MW-151	03/21/11	12:10	11.05	2.71	--	NP	8.34	--
MW-151	06/14/11	9:51	11.05	7.38	--	NP	3.67	--
MW-151	09/26/11	10:38	11.05	5.75	--	NP	5.30	--
MW-151	12/12/11	11:35	11.05	5.29	--	NP	5.76	--
MW-151	03/27/12	13:39	11.05	3.96	--	NP	7.09	--
MW-151	06/27/12	16:31	11.05	5.01	--	NP	6.04	--
MW-151	09/25/12	7:20	11.05	5.85	--	NP	5.20	--
MW-151	12/13/12	9:45	11.05	3.42	--	NP	7.63	--
MW-151	03/25/13	9:53	11.05	4.98	--	NP	6.07	--
MW-151	06/24/13	11:21	11.05	5.60	--	NP	5.45	--
MW-151	09/23/13	13:20	11.05	5.39	--	NP	5.66	--
MW-151	12/16/13	9:40	11.05	5.79	--	NP	5.26	--
MW-151	03/26/14	7:37	11.05	4.25	--	NP	6.80	--
MW-151	06/16/14	13:12	11.05	5.60	--	NP	5.45	--
MW-151	09/29/14	14:54	11.05	5.19	--	NP	5.86	--
MW-151	12/08/14	11:49	11.05	4.21	--	NP	6.84	--
MW-151	03/23/15	13:10	11.05	4.41	--	NP	6.64	--
MW-151	06/22/15	15:09	11.05	5.73	--	NP	5.32	--
MW-151	10/27/16	8:53	11.05	4.46	--	NP	6.59	--
MW-151	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
MW-151	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
MW-151	06/26/18	9:44	11.05	5.80	--	NP	5.25	Not part of the monitoring network
MW-151	09/21/18	--	11.05	--	--	--	--	Not part of the monitoring network
MW-20R	10/20/08	15:51	12.17	6.53	--	NP	5.64	--
MW-20R	12/08/08	10:27	12.17	6.50	--	NP	5.67	--
MW-20R	02/20/09	9:27	12.17	6.37	--	NP	5.80	--
MW-20R	04/20/09	9:11	12.17	6.80	--	NP	5.37	--
MW-20R	06/22/09	11:21	12.17	6.83	--	NP	5.34	--
MW-20R	08/03/09	11:00	12.17	6.90	--	NP	5.27	--
MW-20R	08/17/09	9:15	12.17	7.18	--	NP	4.99	--
MW-20R	10/29/09	8:58	12.17	6.55	--	NP	5.62	--
MW-20R	01/18/10	13:27	12.17	4.60	--	NP	7.57	--
MW-20R	04/19/10	14:38	12.17	6.30	--	NP	5.87	--
MW-20R	07/19/10	7:06	12.17	6.94	--	NP	5.23	--
MW-20R	10/25/10	13:34	12.17	5.96	--	NP	6.21	--
MW-20R	03/21/11	12:19	12.17	5.73	--	NP	6.44	--
MW-20R	06/14/11	10:02	12.17	6.76	--	NP	5.41	--
MW-20R	09/26/11	10:47	12.17	6.83	--	NP	5.34	--
MW-20R	12/12/11	11:44	12.17	6.56	--	NP	5.61	--
MW-20R	03/27/12	13:49	12.17	5.98	--	NP	6.19	--
MW-20R	06/27/12	16:43	12.17	6.52	--	NP	5.65	--
MW-20R	09/25/12	7:24	12.17	7.09	--	NP	5.08	--
MW-20R	12/13/12	10:00	12.17	5.62	--	NP	6.55	--
MW-20R	03/25/13	10:02	12.17	6.64	--	NP	5.53	--
MW-20R	06/24/13	11:23	12.17	6.64	--	NP	5.53	--
MW-20R	09/23/13	13:32	12.17	6.34	--	NP	5.83	--
MW-20R	12/16/13	9:45	12.17	6.76	--	NP	5.41	--
MW-20R	03/26/14	7:30	12.17	6.04	--	NP	6.13	--
MW-20R	06/16/14	13:20	12.17	6.77	--	NP	5.40	--
MW-20R	09/29/14	13:32	12.17	6.28	--	NP	5.89	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-20R	12/08/14	12:15	12.17	5.55	--	NP	6.62	--
MW-20R	03/23/15	13:15	12.17	6.13	--	NP	6.04	--
MW-20R	06/22/15	15:13	12.17	6.89	--	NP	5.28	--
MW-20R	10/27/16	9:01	12.17	5.66	--	NP	6.51	--
MW-20R	07/24/17	11:41	12.17	6.88	--	NP	5.29	--
MW-20R	03/19/18	12:20	12.17	6.44	--	NP	5.73	--
MW-20R	06/26/18	9:59	12.17	7.08	--	NP	5.09	--
MW-20R	09/21/18	8:59	12.17	6.95	--	NP	5.22	--
MW-20R	11/26/18	12:52	12.17	5.96	--	NP	6.21	--
MW-20R	03/18/19	9:19	12.17	6.59	--	NP	5.58	--
MW-20R	06/17/19	11:05	12.17	6.97	--	NP	5.20	--
MW-20R	09/16/19	12:05	12.17	6.59	--	NP	5.58	--
MW-20R	12/10/19	9:33	12.17	6.40	--	NP	5.77	--
MW-20R	03/12/20	13:23	12.17	6.77	--	NP	5.40	--
MW-20R	06/22/20	12:17	12.17	6.98	--	NP	5.19	--
MW-20R	09/18/20	12:37	12.17	6.89	--	NP	5.28	--
MW-20R	11/02/20	11:40	12.17	6.70	--	NP	5.47	--
MW-203	10/20/08	16:43	31.15	22.83	--	NP	8.32	--
MW-203	12/08/08	12:00	31.15	22.69	--	NP	8.46	--
MW-203	02/20/09	11:00	31.15	22.71	--	NP	8.44	--
MW-203	04/20/09	10:33	31.15	22.55	--	NP	8.60	--
MW-203	06/22/09	11:38	31.15	22.81	--	NP	8.34	--
MW-203	08/03/09	10:38	31.15	22.90	--	NP	8.25	--
MW-203	08/17/09	10:22	31.15	23.02	--	NP	8.13	--
MW-203	10/29/09	9:30	31.15	22.11	--	NP	9.04	--
MW-203	01/18/10	13:59	31.15	21.67	--	NP	9.48	--
MW-203	04/19/10	16:04	31.15	21.86	--	NP	9.29	--
MW-203	07/19/10	8:05	31.15	22.57	--	NP	8.58	--
MW-203	10/25/10	14:45	31.15	22.62	--	NP	8.53	--
MW-203	03/21/11	13:00	31.15	21.76	--	NP	9.39	--
MW-203	06/14/11	11:27	31.15	22.26	--	NP	8.89	--
MW-203	09/26/11	11:13	31.15	22.63	--	NP	8.52	--
MW-203	12/12/11	13:20	31.15	22.35	--	NP	8.80	--
MW-203	03/27/12	14:51	31.15	21.91	--	NP	9.24	--
MW-203	06/27/12	17:48	31.15	22.30	--	NP	8.85	--
MW-203	09/25/12	8:50	31.15	22.75	--	NP	8.40	--
MW-203	12/13/12	10:41	31.15	23.01	--	NP	8.14	--
MW-203	03/25/13	11:06	31.15	22.16	--	NP	8.99	--
MW-203	06/24/13	12:36	31.15	22.43	--	NP	8.72	--
MW-203	09/23/13	13:35	31.15	22.61	--	NP	8.54	--
MW-203	12/16/13	9:41	31.15	22.64	--	NP	8.51	--
MW-203	03/26/14	8:30	31.15	21.85	--	NP	9.30	--
MW-203	06/16/14	14:05	31.15	22.36	--	NP	8.79	--
MW-203	09/29/14	14:55	31.15	22.54	--	NP	8.61	--
MW-203	12/08/14	13:07	31.15	22.00	--	NP	9.15	--
MW-203	03/23/15	14:15	31.15	21.98	--	NP	9.17	--
MW-203	06/22/15	15:48	31.15	22.48	--	NP	8.67	--
MW-203	10/27/16	9:50	31.15	22.31	--	NP	8.84	--
MW-203	07/24/17	12:25	31.15	22.29	--	NP	8.86	--
MW-203	03/19/18	12:48	31.15	22.35	--	NP	8.80	--
MW-203	06/26/18	10:40	31.15	22.37	--	NP	8.78	--
MW-203	09/21/18	8:59	31.15	22.75	--	NP	8.40	--
MW-203	11/26/18	12:49	31.15	22.58	--	NP	8.57	--
MW-203	03/18/19	10:17	31.15	23.35	--	NP	7.80	--
MW-203	06/17/19	10:38	31.15	22.78	--	NP	8.37	--
MW-203	09/16/19	11:57	31.15	22.69	--	NP	8.46	--
MW-203	12/10/19	9:08	31.15	22.78	--	NP	8.37	--
MW-203	03/12/20	13:02	31.15	22.48	--	NP	8.67	--
MW-203	06/22/20	12:55	31.15	22.52	--	NP	8.63	--
MW-203	09/18/20	13:04	31.15	22.79	--	NP	8.36	--
MW-203	11/02/20	12:12	31.15	22.60	--	NP	8.55	--
MW-301	10/20/08	17:30	12.15	6.73	--	NP	5.42	--
MW-301	12/08/08	--	12.15	--	--	--	--	--
MW-301	02/20/09	11:22	12.15	6.53	--	NP	5.62	--
MW-301	04/20/09	10:55	12.15	7.44	--	NP	4.71	--
MW-301	06/22/09	10:36	12.15	7.25	--	NP	4.90	--
MW-301	08/03/09	11:44	12.15	7.42	--	NP	4.73	--
MW-301	08/17/09	10:28	12.15	7.92	--	NP	4.23	--
MW-301	10/29/09	10:00	12.15	7.26	--	NP	4.89	--
MW-301	01/18/10	14:11	12.15	4.95	--	NP	7.20	--
MW-301	04/19/10	16:25	12.15	7.05	--	NP	5.10	--
MW-301	07/19/10	8:34	12.15	7.62	--	NP	4.53	--
MW-301	10/25/10	15:07	12.15	6.05	--	NP	6.10	--
MW-301	03/21/11	13:26	12.15	6.36	--	NP	5.79	--
MW-301	06/14/11	11:50	12.15	7.57	--	NP	4.58	--
MW-301	09/26/11	11:50	12.15	7.27	--	NP	4.88	--
MW-301	12/12/11	14:15	12.15	6.78	--	NP	5.37	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-301	03/27/12	14:51	12.15	6.60	--	NP	5.55	--
MW-301	06/27/12	18:10	12.15	7.05	--	NP	5.10	--
MW-301	09/25/12	9:05	12.15	7.70	--	NP	4.45	--
MW-301	12/13/12	10:58	12.15	5.94	--	NP	6.21	--
MW-301	03/25/13	11:40	12.15	7.30	--	NP	4.85	--
MW-301	06/24/13	12:58	12.15	7.36	--	NP	4.79	--
MW-301	09/23/13	15:00	12.15	6.66	--	NP	5.49	--
MW-301	12/16/13	11:20	12.15	6.95	--	NP	5.20	--
MW-301	03/26/14	9:05	12.15	6.46	--	NP	5.69	--
MW-301	06/16/14	14:45	12.15	7.40	--	NP	4.75	--
MW-301	09/29/14	15:05	12.15	6.59	--	NP	5.56	--
MW-301	12/08/14	12:58	12.15	5.73	--	NP	6.42	--
MW-301	03/23/15	15:01	12.15	7.00	--	NP	5.15	--
MW-301	06/22/15	15:54	12.15	7.39	--	NP	4.76	--
MW-301	10/27/16	10:15	12.15	6.21	--	NP	5.94	--
MW-301	07/24/17	--	--	--	--	--	--	Offsite well - Not part of the monitoring network
MW-500	10/20/08	16:32	16.64	8.71	--	NP	7.93	--
MW-500	12/08/08	11:45	16.64	5.16	--	NP	11.48	--
MW-500	02/20/09	10:46	16.64	4.51	--	NP	12.13	--
MW-500	04/20/09	10:19	16.64	3.54	--	NP	13.10	--
MW-500	06/22/09	11:28	16.64	5.18	--	NP	11.46	--
MW-500	08/03/09	10:20	16.64	6.15	--	NP	10.49	--
MW-500	08/17/09	9:48	16.64	6.51	--	NP	10.13	--
MW-500	10/29/09	9:05	16.64	4.94	--	NP	11.70	--
MW-500	01/18/10	13:16	16.64	1.69	--	NP	14.95	--
MW-500	04/19/10	15:50	16.64	3.77	--	NP	12.87	--
MW-500	07/19/10	7:45	16.64	5.39	--	NP	11.25	--
MW-500	10/25/10	14:35	16.64	5.51	--	NP	11.13	--
MW-500	03/21/11	12:54	16.64	2.20	--	NP	14.44	--
MW-500	06/14/11	11:17	16.64	4.71	--	NP	11.93	--
MW-500	09/26/11	11:00	16.64	6.94	--	NP	9.70	--
MW-500	12/12/11	13:00	16.64	4.39	--	NP	12.25	--
MW-500	03/27/12	14:36	16.64	2.61	--	NP	14.03	--
MW-500	06/27/12	17:35	16.64	4.65	--	NP	11.99	--
MW-500	09/25/12	8:17	16.64	6.57	--	NP	10.07	--
MW-500	12/13/12	10:28	16.64	2.27	--	NP	14.37	--
MW-500	03/25/13	10:50	16.64	3.54	--	NP	13.10	--
MW-500	06/24/13	12:20	16.64	5.61	--	NP	11.03	--
MW-500	09/23/13	14:07	16.64	6.22	--	NP	10.42	--
MW-500	12/16/13	10:50	16.64	5.20	--	NP	11.44	--
MW-500	03/26/14	8:46	16.64	2.63	--	NP	14.01	--
MW-500	06/16/14	13:44	16.64	5.48	--	NP	11.16	--
MW-500	09/29/14	15:40	16.64	6.55	--	NP	10.09	--
MW-500	12/08/14	13:05	16.64	3.05	--	NP	13.59	--
MW-500	03/23/15	14:07	16.64	3.18	--	NP	13.46	--
MW-500	06/22/15	14:58	16.64	5.95	--	NP	10.69	--
MW-500	10/27/16	9:45	16.64	2.00	--	NP	14.64	--
MW-500	07/24/17	11:58	16.64	5.85	--	NP	10.79	--
MW-500	03/19/18	12:58	16.64	3.85	--	NP	12.79	--
MW-500	06/26/18	10:10	16.64	5.84	--	NP	10.80	--
MW-500	09/21/18	9:05	16.64	7.28	--	NP	9.36	--
MW-500	11/26/18	12:33	16.64	4.65	--	NP	11.99	--
MW-500	03/18/19	9:42	16.64	3.79	--	NP	12.85	--
MW-500	06/17/19	11:02	16.64	5.84	--	NP	10.80	--
MW-500	09/16/19	12:24	16.64	7.20	--	NP	9.44	--
MW-500	12/10/19	9:53	16.64	5.78	--	NP	10.86	--
MW-500	03/12/20	14:00	16.64	4.00	--	NP	12.64	--
MW-500	06/22/20	12:36	16.64	5.03	--	NP	11.61	--
MW-500	09/18/20	12:33	16.64	6.70	--	NP	9.94	--
MW-500	11/02/20	12:05	16.64	5.88	--	NP	10.76	--
MW-501	10/20/08	16:30	15.24	7.27	--	NP	7.97	--
MW-501	12/08/08	11:43	15.24	5.20	--	NP	10.04	--
MW-501	02/20/09	10:44	15.24	3.43	--	NP	11.81	--
MW-501	04/20/09	10:17	15.24	2.50	--	NP	12.74	--
MW-501	06/22/09	11:31	15.24	3.98	--	NP	11.26	--
MW-501	08/03/09	10:22	15.24	4.95	--	NP	10.29	--
MW-501	08/17/09	9:46	15.24	5.51	--	NP	9.73	--
MW-501	10/29/09	9:02	15.24	3.01	--	NP	12.23	--
MW-501	01/18/10	13:23	15.24	0.56	--	NP	14.68	--
MW-501	04/19/10	15:48	15.24	2.54	--	NP	12.70	--
MW-501	07/19/10	7:44	15.24	4.36	--	NP	10.88	--
MW-501	10/25/10	14:35	15.24	4.57	--	NP	10.67	--
MW-501	03/21/11	12:48	15.24	1.31	--	NP	13.93	--
MW-501	06/14/11	11:12	15.24	3.51	--	NP	11.73	--
MW-501	09/26/11	11:12	15.24	6.01	--	NP	9.23	--
MW-501	12/12/11	12:56	15.24	3.28	--	NP	11.96	--
MW-501	03/27/12	14:53	15.24	1.79	--	NP	13.45	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-501	06/27/12	17:47	15.24	3.38	--	NP	11.86	--
MW-501	09/25/12	8:15	15.24	5.78	--	NP	9.46	--
MW-501	12/13/12	10:25	15.24	1.36	--	NP	13.88	--
MW-501	03/25/13	10:54	15.24	2.35	--	NP	12.89	--
MW-501	06/24/13	12:18	15.24	4.24	--	NP	11.00	--
MW-501	09/23/13	14:08	15.24	5.52	--	NP	9.72	--
MW-501	12/16/13	11:25	15.24	4.01	--	NP	11.23	--
MW-501	03/26/14	8:41	15.24	1.75	--	NP	13.49	--
MW-501	06/16/14	13:53	15.24	4.12	--	NP	11.12	--
MW-501	09/29/14	15:47	15.24	6.49	--	NP	8.75	--
MW-501	12/08/14	12:50	15.24	2.20	--	NP	13.04	--
MW-501	03/23/15	14:41	15.24	2.45	--	NP	12.79	--
MW-501	06/22/15	14:59	15.24	4.85	--	NP	10.39	--
MW-501	10/27/16	9:54	15.24	1.39	--	NP	13.85	--
MW-501	07/24/17	12:02	15.24	4.67	--	NP	10.57	--
MW-501	03/19/18	13:09	15.24	4.69	--	NP	10.55	--
MW-501	06/26/18	10:15	15.24	4.90	--	NP	10.34	--
MW-501	09/21/18	9:20	15.24	6.71	--	NP	8.53	--
MW-501	11/26/18	12:32	15.24	6.39	--	NP	8.85	--
MW-501	03/18/19	9:39	15.24	5.35	--	NP	9.89	--
MW-501	06/17/19	11:06	15.24	4.99	--	NP	10.25	--
MW-501	09/16/19	12:26	15.24	6.44	--	NP	8.80	--
MW-501	12/10/19	9:58	15.24	7.20	--	NP	8.04	--
MW-501	03/12/20	14:05	15.24	5.21	--	NP	10.03	--
MW-501	06/22/20	12:33	15.24	6.92	--	NP	8.32	--
MW-501	09/18/20	12:29	15.24	5.94	--	NP	9.30	--
MW-501	11/02/20	12:03	15.24	6.41	--	NP	8.83	--
MW-502	10/20/08	16:25	13.00	5.41	--	NP	7.59	--
MW-502	12/08/08	11:20	13.00	5.16	--	NP	7.84	--
MW-502	02/20/09	10:24	13.00	5.03	--	NP	7.97	--
MW-502	04/20/09	10:40	13.00	4.98	--	NP	8.02	--
MW-502	06/22/09	11:49	13.00	5.35	--	NP	7.65	--
MW-502	08/03/09	11:34	13.00	5.53	--	NP	7.47	--
MW-502	08/17/09	9:39	13.00	5.56	--	NP	7.44	--
MW-502	10/29/09	9:40	13.00	5.03	--	NP	7.97	--
MW-502	01/18/10	13:55	13.00	3.78	--	NP	9.22	--
MW-502	04/19/10	15:42	13.00	4.47	--	NP	8.53	--
MW-502	07/19/10	7:24	13.00	5.25	--	NP	7.75	--
MW-502	10/25/10	14:15	13.00	5.20	--	NP	7.80	--
MW-502	03/21/11	12:43	13.00	4.05	--	NP	8.95	--
MW-502	06/14/11	11:05	13.00	4.90	--	NP	8.10	--
MW-502	09/26/11	11:10	13.00	5.46	--	NP	7.54	--
MW-502	12/12/11	13:26	13.00	4.91	--	NP	8.09	--
MW-502	03/27/12	14:26	13.00	4.32	--	NP	8.68	--
MW-502	06/27/12	17:24	13.00	4.93	--	NP	8.07	--
MW-502	09/25/12	8:01	13.00	6.50	--	NP	6.50	--
MW-502	12/13/12	10:22	13.00	4.31	--	NP	8.69	--
MW-502	03/25/13	10:31	13.00	4.71	--	NP	8.29	--
MW-502	06/24/13	12:38	13.00	5.20	--	NP	7.80	--
MW-502	09/23/13	14:20	13.00	5.22	--	NP	7.78	--
MW-502	12/16/13	10:39	13.00	5.27	--	NP	7.73	--
MW-502	03/26/14	8:24	13.00	4.38	--	NP	8.62	--
MW-502	06/16/14	13:50	13.00	5.10	--	NP	7.90	--
MW-502	09/29/14	15:39	13.00	5.20	--	NP	7.80	--
MW-502	12/08/14	12:37	13.00	4.51	--	NP	8.49	--
MW-502	03/23/15	14:27	13.00	4.50	--	NP	8.50	--
MW-502	06/22/15	15:55	13.00	5.28	--	NP	7.72	--
MW-502	10/27/16	10:05	13.00	4.80	--	NP	8.20	--
MW-502	07/24/17	11:51	13.00	5.35	--	NP	7.65	--
MW-502	03/19/18	12:50	13.00	5.22	--	NP	7.78	--
MW-502	06/26/18	10:24	13.00	5.96	--	NP	7.04	--
MW-502	09/21/18	8:14	13.00	5.72	--	NP	7.28	--
MW-502	11/26/18	12:57	13.00	5.56	--	NP	7.44	--
MW-502	03/18/19	9:31	13.00	5.35	--	NP	7.65	--
MW-502	06/17/19	11:30	13.00	5.62	--	NP	7.38	--
MW-502	09/16/19	13:04	13.00	5.51	--	NP	7.49	--
MW-502	12/10/19	10:05	13.00	5.52	--	NP	7.48	--
MW-502	03/12/20	13:39	13.00	5.23	--	NP	7.77	--
MW-502	06/22/20	12:35	13.00	5.32	--	NP	7.68	--
MW-502	09/18/20	13:01	13.00	5.72	--	NP	7.28	--
MW-502	11/02/20	12:03	13.00	5.46	--	NP	7.54	--
MW-503	10/20/08	16:23	12.22	5.75	--	NP	6.47	--
MW-503	12/08/08	11:23	12.22	5.42	--	NP	6.80	--
MW-503	02/20/09	10:21	12.22	5.25	--	NP	6.97	--
MW-503	04/20/09	10:42	12.22	5.00	--	NP	7.22	--
MW-503	06/22/09	11:48	12.22	5.56	--	NP	6.66	--
MW-503	08/03/09	11:33	12.22	5.75	--	NP	6.47	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-503	08/17/09	9:37	12.22	5.76	--	NP	6.46	--
MW-503	10/29/09	9:39	12.22	5.00	--	NP	7.22	--
MW-503	01/18/10	13:54	12.22	3.66	--	NP	8.56	--
MW-503	04/19/10	15:40	12.22	4.69	--	NP	7.53	--
MW-503	07/19/10	7:26	12.22	5.45	--	NP	6.77	--
MW-503	10/25/10	14:12	12.22	5.19	--	NP	7.03	--
MW-503	03/21/11	12:42	12.22	4.10	--	NP	8.12	--
MW-503	06/14/11	11:01	12.22	5.10	--	NP	7.12	--
MW-503	09/26/11	11:07	12.22	5.55	--	NP	6.67	--
MW-503	12/12/11	13:30	12.22	5.07	--	NP	7.15	--
MW-503	03/27/12	14:24	12.22	4.47	--	NP	7.75	--
MW-503	06/27/12	17:22	12.22	5.05	--	NP	7.17	--
MW-503	09/25/12	7:59	12.22	5.61	--	NP	6.61	--
MW-503	12/13/12	10:20	12.22	4.40	--	NP	7.82	--
MW-503	03/25/13	10:35	12.22	4.83	--	NP	7.39	--
MW-503	06/24/13	11:54	12.22	5.33	--	NP	6.89	--
MW-503	09/23/13	14:35	12.22	5.26	--	NP	6.96	--
MW-503	12/16/13	10:35	12.22	5.40	--	NP	6.82	--
MW-503	03/26/14	8:22	12.22	4.56	--	NP	7.66	--
MW-503	06/16/14	13:48	12.22	5.22	--	NP	7.00	--
MW-503	09/29/14	15:41	12.22	5.13	--	NP	7.09	--
MW-503	12/08/14	12:35	12.22	4.55	--	NP	7.67	--
MW-503	03/23/15	14:10	12.22	5.09	--	NP	7.13	--
MW-503	06/22/15	15:57	12.22	5.32	--	NP	6.90	--
MW-503	10/27/16	10:06	12.22	4.22	--	NP	8.00	--
MW-503	07/24/17	11:53	12.22	5.38	--	NP	6.84	Well damaged
MW-503	03/19/18	12:48	12.22	5.12	--	NP	7.10	--
MW-503	06/26/18	11:05	12.22	5.80	--	NP	6.42	--
MW-503	09/21/18	9:31	12.22	5.36	--	NP	6.86	--
MW-503	11/26/18	13:01	12.22	5.18	--	NP	7.04	--
MW-503	03/18/19	9:32	12.22	5.49	--	NP	6.73	--
MW-503	06/17/19	11:28	12.22	5.34	--	NP	6.88	--
MW-503	09/16/19	13:06	12.22	5.18	--	NP	7.04	--
MW-503	12/10/19	10:03	12.22	5.39	--	NP	6.83	--
MW-503	03/12/20	13:41	12.22	5.22	--	NP	7.00	--
MW-503	06/22/20	12:37	12.22	5.22	--	NP	7.00	--
MW-503	09/18/20	13:03	12.22	5.33	--	NP	6.89	--
MW-503	11/02/20	12:18	12.22	7.23	--	NP	4.99	--
MW-504	10/20/08	16:14	13.32	7.01	--	NP	6.31	--
MW-504	12/08/08	11:26	13.32	6.63	--	NP	6.69	--
MW-504	02/20/09	10:16	13.32	6.46	--	NP	6.86	--
MW-504	04/20/09	10:03	13.32	6.25	--	NP	7.07	--
MW-504	06/22/09	11:42	13.32	6.81	--	NP	6.51	--
MW-504	08/03/09	11:29	13.32	7.00	--	NP	6.32	--
MW-504	08/17/09	9:35	13.32	7.05	--	NP	6.27	--
MW-504	10/29/09	9:26	13.32	6.28	--	NP	7.04	--
MW-504	01/18/10	13:53	13.32	4.90	--	NP	8.42	--
MW-504	04/19/10	15:37	13.32	5.99	--	NP	7.33	--
MW-504	07/19/10	7:28	13.32	6.80	--	NP	6.52	--
MW-504	10/25/10	14:10	13.32	6.66	--	NP	6.66	--
MW-504	03/21/11	12:40	13.32	5.48	--	NP	7.84	--
MW-504	06/14/11	10:57	13.32	6.48	--	NP	6.84	--
MW-504	09/26/11	11:05	13.32	7.09	--	NP	6.23	--
MW-504	12/12/11	12:07	13.32	6.42	--	NP	6.90	--
MW-504	03/27/12	14:22	13.32	5.84	--	NP	7.48	--
MW-504	06/27/12	17:20	13.32	6.40	--	NP	6.92	--
MW-504	09/25/12	7:57	13.32	7.07	--	NP	6.25	--
MW-504	12/13/12	10:18	13.32	5.80	--	NP	7.52	--
MW-504	03/25/13	10:33	13.32	6.22	--	NP	7.10	--
MW-504	06/24/13	11:57	13.32	6.80	--	NP	6.52	--
MW-504	09/23/13	13:55	13.32	6.67	--	NP	6.65	--
MW-504	12/16/13	10:37	13.32	6.85	--	NP	6.47	--
MW-504	03/26/14	8:21	13.32	6.00	--	NP	7.32	--
MW-504	06/16/14	13:46	13.32	6.69	--	NP	6.63	--
MW-504	09/29/14	15:45	13.32	6.61	--	NP	6.71	--
MW-504	12/08/14	12:33	13.32	5.64	--	NP	7.68	--
MW-504	03/23/15	13:57	13.32	6.05	--	NP	7.27	--
MW-504	06/22/15	15:59	13.32	5.32	--	NP	8.00	--
MW-504	10/27/16	9:13	13.32	5.52	--	NP	7.80	--
MW-504	07/24/17	12:00	13.32	6.85	--	NP	6.47	--
MW-504	03/19/18	12:42	13.32	6.56	--	NP	6.76	--
MW-504	06/26/18	10:26	13.32	7.13	--	NP	6.19	--
MW-504	09/21/18	8:49	13.32	6.94	--	NP	6.38	--
MW-504	11/26/18	13:03	13.32	6.70	--	NP	6.62	PID: 0.9
MW-504	03/18/19	10:25	13.32	6.71	--	NP	6.61	--
MW-504	06/17/19	11:26	13.32	6.75	--	NP	6.57	--
MW-504	09/16/19	12:44	13.32	6.65	--	NP	6.67	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-504	12/10/19	10:01	13.32	6.90	--	NP	6.42	--
MW-504	03/12/20	13:43	13.32	6.62	--	NP	6.70	--
MW-504	06/22/20	12:39	13.32	6.60	--	NP	6.72	--
MW-504	09/18/20	13:05	13.32	6.80	--	NP	6.52	--
MW-504	11/02/20	11:52	13.32	6.78	--	NP	6.54	--
MW-505	10/20/08	16:11	11.42	5.10	--	NP	6.32	--
MW-505	12/08/08	11:13	11.42	4.72	--	NP	6.70	--
MW-505	02/20/09	10:18	11.42	4.53	--	NP	6.89	--
MW-505	04/20/09	10:02	11.42	4.32	--	NP	7.10	--
MW-505	06/22/09	11:39	11.42	4.90	--	NP	6.52	--
MW-505	08/03/09	11:28	11.42	5.11	--	NP	6.31	--
MW-505	08/17/09	9:33	11.42	5.13	--	NP	6.29	--
MW-505	10/29/09	9:25	11.42	4.37	--	NP	7.05	--
MW-505	01/18/10	13:52	11.42	2.99	--	NP	8.43	--
MW-505	04/19/10	15:35	11.42	4.08	--	NP	7.34	--
MW-505	07/19/10	7:31	11.42	5.89	--	NP	5.53	--
MW-505	10/25/10	14:08	11.42	4.73	--	NP	6.69	--
MW-505	03/21/11	12:39	11.42	3.45	--	NP	7.97	--
MW-505	06/14/11	10:58	11.42	4.58	--	NP	6.84	--
MW-505	09/26/11	10:54	11.42	5.14	--	NP	6.28	--
MW-505	12/12/11	12:09	11.42	4.50	--	NP	6.92	--
MW-505	03/27/12	14:11	11.42	3.94	--	NP	7.48	--
MW-505	06/27/12	17:16	11.42	4.49	--	NP	6.93	--
MW-505	09/25/12	7:55	11.42	5.13	--	NP	6.29	--
MW-505	12/13/12	10:15	11.42	3.88	--	NP	7.54	--
MW-505	03/25/13	10:31	11.42	4.30	--	NP	7.12	--
MW-505	06/24/13	11:52	11.42	4.84	--	NP	6.58	--
MW-505	09/23/13	13:53	11.42	4.76	--	NP	6.66	--
MW-505	12/16/13	10:27	11.42	4.91	--	NP	6.51	--
MW-505	03/26/14	8:17	11.42	4.10	--	NP	7.32	--
MW-505	06/16/14	13:44	11.42	4.75	--	NP	6.67	--
MW-505	09/29/14	15:47	11.42	4.69	--	NP	6.73	--
MW-505	12/08/14	12:30	11.42	4.10	--	NP	7.32	--
MW-505	03/23/15	13:56	11.42	4.13	--	NP	7.29	--
MW-505	06/22/15	16:01	11.42	4.88	--	NP	6.54	--
MW-505	10/27/16	9:14	11.42	3.63	--	NP	7.79	--
MW-505	07/24/17	12:17	11.42	4.92	--	NP	6.50	--
MW-505	03/19/18	12:40	11.42	4.65	--	NP	6.77	--
MW-505	06/26/18	10:21	11.42	5.23	--	NP	6.19	--
MW-505	09/21/18	9:35	11.42	5.05	--	NP	6.37	--
MW-505	11/26/18	13:04	11.42	4.78	--	NP	6.64	--
MW-505	03/18/19	10:21	11.42	4.76	--	NP	6.66	--
MW-505	06/17/19	11:24	11.42	4.83	--	NP	6.59	--
MW-505	09/16/19	12:43	11.42	4.71	--	NP	6.71	--
MW-505	12/10/19	9:58	11.42	4.95	--	NP	6.47	--
MW-505	03/12/20	13:39	11.42	4.68	--	NP	6.74	--
MW-505	06/22/20	12:41	11.42	4.65	--	NP	6.77	--
MW-505	09/18/20	13:07	11.42	4.92	--	NP	6.50	--
MW-505	11/02/20	11:54	11.42	4.77	--	NP	6.65	--
MW-506	10/20/08	16:16	13.44	7.13	--	NP	6.31	--
MW-506	12/08/08	11:29	13.44	6.75	--	NP	6.69	--
MW-506	02/20/09	10:13	13.44	6.60	--	NP	6.84	--
MW-506	04/20/09	10:08	13.44	6.37	--	NP	7.07	--
MW-506	06/22/09	11:44	13.44	6.93	--	NP	6.51	--
MW-506	08/03/09	11:30	13.44	7.13	--	NP	6.31	--
MW-506	08/17/09	9:31	13.44	7.17	--	NP	6.27	--
MW-506	10/29/09	9:28	13.44	6.39	--	NP	7.05	--
MW-506	01/18/10	13:47	13.44	5.02	--	NP	8.42	--
MW-506	04/19/10	15:30	13.44	6.10	--	NP	7.34	--
MW-506	07/19/10	7:37	13.44	6.91	--	NP	6.53	--
MW-506	10/25/10	14:10	13.44	6.75	--	NP	6.69	--
MW-506	03/21/11	12:40	13.44	5.50	--	NP	7.94	--
MW-506	06/14/11	10:48	13.44	6.59	--	NP	6.85	--
MW-506	09/26/11	11:00	13.44	7.13	--	NP	6.31	--
MW-506	12/12/11	12:14	13.44	6.56	--	NP	6.88	--
MW-506	03/27/12	14:15	13.44	5.93	--	NP	7.51	--
MW-506	06/27/12	17:20	13.44	6.51	--	NP	6.93	--
MW-506	09/25/12	7:52	13.44	7.15	--	NP	6.29	--
MW-506	12/13/12	10:10	13.44	5.89	--	NP	7.55	--
MW-506	03/25/13	10:33	13.44	6.33	--	NP	7.11	--
MW-506	06/24/13	12:03	13.44	6.88	--	NP	6.56	--
MW-506	09/23/13	13:57	13.44	6.76	--	NP	6.68	--
MW-506	12/16/13	10:28	13.44	6.93	--	NP	6.51	--
MW-506	03/26/14	9:12	13.44	6.09	--	NP	7.35	--
MW-506	06/16/14	13:48	13.44	6.79	--	NP	6.65	--
MW-506	09/29/14	13:54	13.44	6.71	--	NP	6.73	--
MW-506	12/08/14	12:45	13.44	6.07	--	NP	7.37	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-506	03/23/15	14:03	13.44	6.15	--	NP	7.29	--
MW-506	06/22/15	15:25	13.44	6.89	--	NP	6.55	--
MW-506	10/27/16	9:48	13.44	5.62	--	NP	7.82	--
MW-506	07/24/17	12:01	13.44	6.91	--	NP	6.53	--
MW-506	03/19/18	12:43	13.44	6.60	--	NP	6.84	--
MW-506	06/26/18	10:20	13.44	7.21	--	NP	6.23	--
MW-506	09/21/18	8:47	13.44	7.01	--	NP	6.43	--
MW-506	11/26/18	13:06	13.44	6.78	--	NP	6.66	--
MW-506	03/18/19	10:22	13.44	6.80	--	NP	6.64	--
MW-506	06/17/19	11:16	13.44	6.82	--	NP	6.62	--
MW-506	09/16/19	12:36	13.44	6.73	--	NP	6.71	--
MW-506	12/10/19	10:20	13.44	6.95	--	NP	6.49	--
MW-506	03/12/20	13:41	13.44	6.69	--	NP	6.75	--
MW-506	06/22/20	11:29	13.44	6.69	--	NP	6.75	--
MW-506	09/18/20	12:19	13.44	6.88	--	NP	6.56	--
MW-506	11/02/20	11:50	13.44	6.80	--	NP	6.64	--
MW-507	10/20/08	16:09	13.60	7.38	--	NP	6.22	--
MW-507	12/08/08	11:11	13.60	7.09	--	NP	6.51	--
MW-507	02/20/09	10:11	13.60	6.91	--	NP	6.69	--
MW-507	04/20/09	10:00	13.60	6.70	--	NP	6.90	--
MW-507	06/22/09	11:37	13.60	7.23	--	NP	6.37	--
MW-507	08/03/09	11:27	13.60	7.41	--	NP	6.19	--
MW-507	08/17/09	9:29	13.60	7.45	--	NP	6.15	--
MW-507	10/29/09	9:23	13.60	6.70	--	NP	6.90	--
MW-507	01/18/10	13:48	13.60	5.49	--	NP	8.11	--
MW-507	04/19/10	15:29	13.60	6.40	--	NP	7.20	--
MW-507	07/19/10	7:36	13.60	7.14	--	NP	6.46	--
MW-507	10/25/10	14:09	13.60	6.90	--	NP	6.70	--
MW-507	03/21/11	12:38	13.60	5.86	--	NP	7.74	--
MW-507	06/14/11	10:44	13.60	6.95	--	NP	6.65	--
MW-507	09/26/11	11:01	13.60	7.40	--	NP	6.20	--
MW-507	12/12/11	12:17	13.60	6.81	--	NP	6.79	--
MW-507	03/27/12	14:10	13.60	6.23	--	NP	7.37	--
MW-507	06/27/12	17:17	13.60	6.79	--	NP	6.81	--
MW-507	09/25/12	7:49	13.60	7.38	--	NP	6.22	--
MW-507	12/13/12	10:12	13.60	6.19	--	NP	7.41	--
MW-507	03/25/13	10:31	13.60	6.56	--	NP	7.04	--
MW-507	06/24/13	12:02	13.60	7.05	--	NP	6.55	--
MW-507	09/23/13	13:52	13.60	7.03	--	NP	6.57	--
MW-507	12/16/13	10:26	13.60	7.15	--	NP	6.45	--
MW-507	03/26/14	8:40	13.60	6.41	--	NP	7.19	--
MW-507	06/16/14	13:46	13.60	7.01	--	NP	6.59	--
MW-507	09/29/14	13:53	13.60	6.92	--	NP	6.68	--
MW-507	12/08/14	12:41	13.60	6.35	--	NP	7.25	--
MW-507	03/23/15	13:54	13.60	6.47	--	NP	7.13	--
MW-507	06/22/15	15:26	13.60	7.17	--	NP	6.43	--
MW-507	10/27/16	9:47	13.60	5.84	--	NP	7.76	--
MW-507	07/24/17	12:05	13.60	7.07	--	NP	6.53	--
MW-507	03/19/18	12:42	13.60	6.82	--	NP	6.78	--
MW-507	06/26/18	10:16	13.60	7.37	--	NP	6.23	--
MW-507	09/21/18	8:44	13.60	7.21	--	NP	6.39	--
MW-507	11/26/18	13:08	13.60	6.85	--	NP	6.75	--
MW-507	03/18/19	10:19	13.60	6.93	--	NP	6.67	--
MW-507	06/17/19	11:18	13.60	7.00	--	NP	6.60	--
MW-507	09/16/19	12:38	13.60	6.89	--	NP	6.71	--
MW-507	12/10/19	10:22	13.60	7.12	--	NP	6.48	--
MW-507	03/12/20	13:37	13.60	6.88	--	NP	6.72	--
MW-507	06/22/20	11:35	13.60	6.86	--	NP	6.74	--
MW-507	09/18/20	12:16	13.60	7.02	--	NP	6.58	--
MW-507	11/02/20	11:49	13.60	6.91	--	NP	6.69	--
MW-509	10/20/08	16:05	10.28	3.97	--	NP	6.31	--
MW-509	12/08/08	11:07	10.28	3.59	--	NP	6.69	--
MW-509	02/20/09	10:06	10.28	3.39	--	NP	6.89	--
MW-509	04/20/09	9:36	10.28	3.18	--	NP	7.10	--
MW-509	06/22/09	11:33	10.28	3.75	--	NP	6.53	--
MW-509	08/03/09	11:11	10.28	3.95	--	NP	6.33	--
MW-509	08/17/09	9:27	10.28	6.97	--	NP	3.31	--
MW-509	10/29/09	9:10	10.28	3.23	--	NP	7.05	--
MW-509	01/18/10	13:50	10.28	1.85	--	NP	8.43	--
MW-509	04/19/10	15:26	10.28	2.93	--	NP	7.35	--
MW-509	07/19/10	7:18	10.28	3.77	--	NP	6.51	--
MW-509	10/25/10	14:49	10.28	4.59	--	NP	5.69	--
MW-509	03/21/11	12:30	10.28	2.34	--	NP	7.94	--
MW-509	06/14/11	10:17	10.28	3.43	--	NP	6.85	--
MW-509	09/26/11	10:55	10.28	4.20	--	NP	6.08	--
MW-509	12/12/11	12:27	10.28	3.36	--	NP	6.92	--
MW-509	03/27/12	13:57	10.28	2.78	--	NP	7.50	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-509	06/27/12	17:06	10.28	3.33	--	NP	6.95	--
MW-509	09/25/12	7:42	10.28	4.00	--	NP	6.28	--
MW-509	12/13/12	10:13	10.28	2.73	--	NP	7.55	--
MW-509	03/25/13	10:26	10.28	3.18	--	NP	7.10	--
MW-509	06/24/13	11:34	10.28	3.37	--	NP	6.91	--
MW-509	09/23/13	13:50	10.28	3.62	--	NP	6.66	--
MW-509	12/16/13	11:25	10.28	3.80	--	NP	6.48	--
MW-509	03/26/14	8:24	10.28	2.93	--	NP	7.35	--
MW-509	06/16/14	13:36	10.28	3.64	--	NP	6.64	--
MW-509	09/29/14	14:30	10.28	3.56	--	NP	6.72	--
MW-509	12/08/14	12:05	10.28	2.92	--	NP	7.36	--
MW-509	03/23/15	13:47	10.28	2.98	--	NP	7.30	--
MW-509	06/25/15	11:41	10.28	3.74	--	NP	6.54	--
MW-509	10/27/16	9:17	10.28	2.48	--	NP	7.80	--
MW-509	07/24/17	11:53	10.28	3.80	--	NP	6.48	--
MW-509	03/19/18	12:35	10.28	3.58	--	NP	6.70	--
MW-509	06/26/18	10:19	10.28	4.06	--	NP	6.22	--
MW-509	09/21/18	9:19	10.28	3.85	--	NP	6.43	--
MW-509	11/26/18	13:18	10.28	3.64	--	NP	6.64	--
MW-509	03/18/19	10:10	10.28	3.63	--	NP	6.65	--
MW-509	06/17/19	11:22	10.28	3.69	--	NP	6.59	--
MW-509	09/16/19	13:09	10.28	3.61	--	NP	6.67	--
MW-509	12/10/19	9:57	10.28	3.81	--	NP	6.47	--
MW-509	03/12/20	13:35	10.28	3.56	--	NP	6.72	--
MW-509	06/22/20	12:08	10.28	3.53	--	NP	6.75	--
MW-509	09/18/20	11:30	10.28	3.75	--	NP	6.53	--
MW-509	11/02/20	12:33	10.28	3.86	--	NP	6.42	--
MW-511	10/20/08	16:49	15.20	7.75	--	NP	7.45	--
MW-511	12/08/08	12:05	15.20	7.45	--	NP	7.75	--
MW-511	02/20/09	10:13	15.20	7.34	--	NP	7.86	--
MW-511	04/20/09	10:44	15.20	7.09	--	NP	8.11	--
MW-511	06/22/09	11:16	15.20	7.66	--	NP	7.54	--
MW-511	08/03/09	10:40	15.20	7.89	--	NP	7.31	--
MW-511	08/17/09	9:17	15.20	7.87	--	NP	7.33	--
MW-511	10/29/09	9:10	15.20	7.30	--	NP	7.90	--
MW-511	01/18/10	13:36	15.20	6.06	--	NP	9.14	--
MW-511	04/19/10	16:10	15.20	6.83	--	NP	8.37	--
MW-511	07/19/10	7:18	15.20	7.59	--	NP	7.61	--
MW-511	10/25/10	14:50	15.20	7.51	--	NP	7.69	--
MW-511	03/21/11	13:06	15.20	6.37	--	NP	8.83	--
MW-511	06/14/11	11:38	15.20	7.29	--	NP	7.91	--
MW-511	09/26/11	11:08	15.20	7.88	--	NP	7.32	--
MW-511	12/12/11	13:27	15.20	7.20	--	NP	8.00	--
MW-511	03/27/12	14:55	15.20	6.62	--	NP	8.58	--
MW-511	06/27/12	17:39	15.20	7.27	--	NP	7.93	--
MW-511	09/25/12	8:27	15.20	7.85	--	NP	7.35	--
MW-511	12/13/12	10:44	15.20	6.59	--	NP	8.61	--
MW-511	03/25/13	10:59	15.20	7.05	--	NP	8.15	--
MW-511	06/24/13	11:32	15.20	7.60	--	NP	7.60	--
MW-511	09/23/13	13:29	15.20	7.59	--	NP	7.61	--
MW-511	12/16/13	11:27	15.20	7.60	--	NP	7.60	--
MW-511	03/26/14	8:24	15.20	6.74	--	NP	8.46	--
MW-511	06/16/14	13:35	15.20	7.50	--	NP	7.70	--
MW-511	09/29/14	15:16	15.20	7.59	--	NP	7.61	--
MW-511	12/08/14	11:50	15.20	6.89	--	NP	8.31	--
MW-511	03/23/15	13:29	15.20	6.86	--	NP	8.34	--
MW-511	06/22/15	15:42	15.20	7.70	--	NP	7.50	--
MW-511	10/27/16	9:10	15.20	7.38	--	NP	7.82	--
MW-511	07/24/17	11:49	15.20	8.06	--	NP	7.14	--
MW-511	03/19/18	12:42	15.20	7.92	--	NP	7.28	--
MW-511	06/26/18	11:06	15.20	8.70	--	NP	6.50	--
MW-511	09/21/18	9:40	15.20	8.35	--	NP	6.85	--
MW-511	11/26/18	12:53	15.20	8.33	--	NP	6.87	--
MW-511	03/18/19	9:29	15.20	8.12	--	NP	7.08	--
MW-511	06/17/19	11:47	15.20	8.32	--	NP	6.88	--
MW-511	09/16/19	11:52	15.20	8.27	--	NP	6.93	--
MW-511	12/10/19	10:31	15.20	8.13	--	NP	7.07	--
MW-511	03/12/20	12:54	15.20	8.10	--	NP	7.10	--
MW-511	06/22/20	11:53	15.20	7.98	--	NP	7.22	--
MW-511	09/18/20	12:35	15.20	8.47	--	NP	6.73	--
MW-511	11/02/20	12:05	15.20	8.19	--	NP	7.01	--
MW-512	10/20/08	16:04	13.19	6.90	--	NP	6.29	--
MW-512	12/08/08	10:37	13.19	6.51	--	NP	6.68	--
MW-512	02/20/09	10:10	13.19	6.30	--	NP	6.89	--
MW-512	04/20/09	9:28	13.19	6.12	--	NP	7.07	--
MW-512	06/22/09	11:18	13.19	7.68	--	NP	5.51	--
MW-512	08/03/09	11:09	13.19	6.86	--	NP	6.33	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-512	08/17/09	9:18	13.19	6.91	--	NP	6.28	--
MW-512	10/29/09	9:07	13.19	6.15	--	NP	7.04	--
MW-512	01/18/10	13:34	13.19	4.78	--	NP	8.41	--
MW-512	04/19/10	14:48	13.19	5.85	--	NP	7.34	--
MW-512	07/19/10	7:16	13.19	6.67	--	NP	6.52	--
MW-512	10/25/10	13:48	13.19	6.51	--	NP	6.68	--
MW-512	03/21/11	12:22	13.19	5.26	--	NP	7.93	--
MW-512	06/14/11	10:16	13.19	6.35	--	NP	6.84	--
MW-512	09/26/11	11:53	13.19	6.95	--	NP	6.24	--
MW-512	12/12/11	11:59	13.19	6.29	--	NP	6.90	--
MW-512	03/27/12	13:52	13.19	5.72	--	NP	7.47	--
MW-512	06/27/12	17:00	13.19	6.27	--	NP	6.92	--
MW-512	09/25/12	7:30	13.19	6.93	--	NP	6.26	--
MW-512	12/13/12	10:15	13.19	5.65	--	NP	7.54	--
MW-512	03/25/13	10:20	13.19	6.11	--	NP	7.08	--
MW-512	06/24/13	11:37	13.19	6.67	--	NP	6.52	--
MW-512	09/23/13	13:40	13.19	6.57	--	NP	6.62	--
MW-512	12/16/13	10:09	13.19	6.72	--	NP	6.47	--
MW-512	03/26/14	8:12	13.19	5.88	--	NP	7.31	--
MW-512	06/16/14	13:31	13.19	6.56	--	NP	6.63	--
MW-512	09/29/14	15:25	13.19	6.50	--	NP	6.69	--
MW-512	12/08/14	11:55	13.19	5.90	--	NP	7.29	--
MW-512	03/23/15	13:32	13.19	5.91	--	NP	7.28	--
MW-512	06/22/15	15:38	13.19	6.70	--	NP	6.49	--
MW-512	10/27/16	9:09	13.19	5.40	--	NP	7.79	--
MW-512	07/24/17	12:25	13.19	6.73	--	NP	6.46	--
MW-512	03/19/18	12:54	13.19	6.44	--	NP	6.75	--
MW-512	06/26/18	11:08	13.19	7.08	--	NP	6.11	--
MW-512	09/21/18	9:34	13.19	6.84	--	NP	6.35	--
MW-512	11/26/18	13:14	13.19	6.62	--	NP	6.57	--
MW-512	03/18/19	9:25	13.19	6.64	--	NP	6.55	--
MW-512	06/17/19	11:41	13.19	6.66	--	NP	6.53	--
MW-512	09/16/19	12:41	13.19	6.59	--	NP	6.60	--
MW-512	12/10/19	10:24	13.19	6.82	--	NP	6.37	--
MW-512	03/12/20	13:24	13.19	6.58	--	NP	6.61	--
MW-512	06/22/20	11:56	13.19	6.53	--	NP	6.66	--
MW-512	09/18/20	12:34	13.19	6.76	--	NP	6.43	--
MW-512	11/02/20	11:56	13.19	6.70	--	NP	6.49	--
MW-513	10/20/08	16:01	11.09	4.78	--	NP	6.31	--
MW-513	12/08/08	10:41	11.09	4.40	--	NP	6.69	--
MW-513	02/20/09	10:07	11.09	4.19	--	NP	6.90	--
MW-513	04/20/09	9:30	11.09	4.00	--	NP	7.09	--
MW-513	06/22/09	11:21	11.09	4.58	--	NP	6.51	--
MW-513	08/03/09	11:08	11.09	4.78	--	NP	6.31	--
MW-513	08/17/09	9:21	11.09	4.80	--	NP	6.29	--
MW-513	10/29/09	9:13	11.09	4.04	--	NP	7.05	--
MW-513	01/18/10	13:37	11.09	2.67	--	NP	8.42	--
MW-513	04/19/10	14:51	11.09	3.75	--	NP	7.34	--
MW-513	07/19/10	7:12	11.09	4.57	--	NP	6.52	--
MW-513	10/25/10	13:44	11.09	4.42	--	NP	6.67	--
MW-513	03/21/11	12:25	11.09	3.18	--	NP	7.91	--
MW-513	06/14/11	10:12	11.09	4.25	--	NP	6.84	--
MW-513	09/26/11	10:54	11.09	4.83	--	NP	6.26	--
MW-513	12/12/11	11:57	11.09	4.19	--	NP	6.90	--
MW-513	03/27/12	13:56	11.09	3.60	--	NP	7.49	--
MW-513	06/27/12	16:58	11.09	4.15	--	NP	6.94	--
MW-513	09/25/12	7:35	11.09	4.82	--	NP	6.27	--
MW-513	12/13/12	10:13	11.09	3.56	--	NP	7.53	--
MW-513	03/25/13	10:16	11.09	3.90	--	NP	7.19	--
MW-513	06/24/13	11:40	11.09	4.55	--	NP	6.54	--
MW-513	09/23/13	13:46	11.09	4.47	--	NP	6.62	--
MW-513	12/16/13	10:12	11.09	4.62	--	NP	6.47	--
MW-513	03/26/14	8:14	11.09	3.77	--	NP	7.32	--
MW-513	06/16/14	13:41	11.09	4.46	--	NP	6.63	--
MW-513	09/29/14	15:29	11.09	4.38	--	NP	6.71	--
MW-513	12/08/14	12:00	11.09	3.74	--	NP	7.35	--
MW-513	03/23/15	13:35	11.09	3.81	--	NP	7.28	--
MW-513	06/22/15	15:31	11.09	4.58	--	NP	6.51	--
MW-513	10/27/16	9:08	11.09	3.30	--	NP	7.79	--
MW-513	07/24/17	12:01	11.09	4.62	--	NP	6.47	--
MW-513	03/19/18	13:24	11.09	4.35	--	NP	6.74	--
MW-513	06/26/18	10:12	11.09	4.92	--	NP	6.17	--
MW-513	09/21/18	9:29	11.09	4.70	--	NP	6.39	--
MW-513	11/26/18	13:09	11.09	4.49	--	NP	6.60	--
MW-513	03/18/19	10:08	11.09	4.49	--	NP	6.60	--
MW-513	06/17/19	11:38	11.09	4.54	--	NP	6.55	--
MW-513	09/16/19	12:38	11.09	4.46	--	NP	6.63	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-513	12/10/19	10:26	11.09	4.68	--	NP	6.41	--
MW-513	03/12/20	13:29	11.09	4.40	--	NP	6.69	--
MW-513	06/22/20	12:01	11.09	4.39	--	NP	6.70	--
MW-513	09/18/20	12:35	11.09	4.60	--	NP	6.49	--
MW-513	11/02/20	12:26	11.09	4.53	--	NP	6.56	--
MW-514	10/20/08	16:02	11.39	5.09	--	NP	6.30	--
MW-514	12/08/08	10:35	11.39	4.70	--	NP	6.69	--
MW-514	02/20/09	10:08	11.39	4.19	--	NP	7.20	--
MW-514	04/20/09	9:28	11.39	4.31	--	NP	7.08	--
MW-514	06/22/09	11:19	11.39	4.88	--	NP	6.51	--
MW-514	08/03/09	11:07	11.39	5.08	--	NP	6.31	--
MW-514	08/17/09	9:19	11.39	5.11	--	NP	6.28	--
MW-514	10/29/09	9:06	11.39	4.35	--	NP	7.04	--
MW-514	01/18/10	13:33	11.39	2.98	--	NP	8.41	--
MW-514	04/19/10	14:46	11.39	4.05	--	NP	7.34	--
MW-514	07/19/10	7:10	11.39	4.97	--	NP	6.42	--
MW-514	10/25/10	13:41	11.39	4.71	--	NP	6.68	--
MW-514	03/21/11	12:23	11.39	3.48	--	NP	7.91	--
MW-514	06/14/11	10:14	11.39	4.56	--	NP	6.83	--
MW-514	09/26/11	10:50	11.39	5.13	--	NP	6.26	--
MW-514	12/12/11	11:55	11.39	4.49	--	NP	6.90	--
MW-514	03/27/12	13:54	11.39	3.92	--	NP	7.47	--
MW-514	06/27/12	16:56	11.39	4.47	--	NP	6.92	--
MW-514	09/25/12	7:32	11.39	5.13	--	NP	6.26	--
MW-514	12/13/12	10:14	11.39	3.84	--	NP	7.55	--
MW-514	03/25/13	9:50	11.39	7.62	--	NP	3.77	See*
MW-514	06/24/13	11:39	11.39	4.84	--	NP	6.55	--
MW-514	09/23/13	13:38	11.39	4.76	--	NP	6.63	--
MW-514	12/16/13	10:10	11.39	4.92	--	NP	6.47	--
MW-514	03/26/14	8:00	11.39	4.05	--	NP	7.34	--
MW-514	06/16/14	13:39	11.39	4.76	--	NP	6.63	--
MW-514	09/29/14	15:27	11.39	4.69	--	NP	6.70	--
MW-514	12/08/14	11:57	11.39	4.10	--	NP	7.29	--
MW-514	03/23/15	13:33	11.39	4.12	--	NP	7.27	--
MW-514	06/22/15	15:28	11.39	4.88	--	NP	6.51	--
MW-514	10/27/16	9:08	11.39	3.61	--	NP	7.78	--
MW-514	07/24/17	12:39	11.39	4.92	--	NP	6.47	--
MW-514	03/19/18	12:55	11.39	4.65	--	NP	6.74	--
MW-514	06/26/18	10:10	11.39	5.23	--	NP	6.16	--
MW-514	09/21/18	9:31	11.39	5.01	--	NP	6.38	--
MW-514	11/26/18	13:12	11.39	4.81	--	NP	6.58	--
MW-514	03/18/19	9:24	11.39	4.91	--	NP	6.48	--
MW-514	06/17/19	11:36	11.39	4.84	--	NP	6.55	--
MW-514	09/16/19	12:40	11.39	4.78	--	NP	6.61	--
MW-514	12/10/19	10:27	11.39	4.97	--	NP	6.42	--
MW-514	03/12/20	13:28	11.39	4.71	--	NP	6.68	--
MW-514	06/22/20	11:59	11.39	5.70	--	NP	5.69	--
MW-514	09/18/20	12:37	11.39	4.90	--	NP	6.49	--
MW-514	11/02/20	12:30	11.39	4.79	--	NP	6.60	--
MW-515	10/20/08	16:00	11.60	5.30	--	NP	6.30	--
MW-515	12/08/08	10:42	11.60	4.91	--	NP	6.69	--
MW-515	02/20/09	9:47	11.60	5.70	--	NP	5.90	--
MW-515	04/20/09	9:25	11.60	4.52	--	NP	7.08	--
MW-515	06/22/09	11:25	11.60	5.09	--	NP	6.51	--
MW-515	08/03/09	11:04	11.60	5.29	--	NP	6.31	--
MW-515	08/17/09	9:23	11.60	5.33	--	NP	6.27	--
MW-515	10/29/09	9:15	11.60	4.55	--	NP	7.05	--
MW-515	01/18/10	13:40	11.60	3.18	--	NP	8.42	--
MW-515	04/19/10	14:54	11.60	4.26	--	NP	7.34	--
MW-515	07/19/10	7:12	11.60	5.10	--	NP	6.50	--
MW-515	10/25/10	13:45	11.60	4.93	--	NP	6.67	--
MW-515	03/21/11	12:26	11.60	3.65	--	NP	7.95	--
MW-515	06/14/11	10:14	11.60	4.75	--	NP	6.85	--
MW-515	09/26/11	10:52	11.60	5.35	--	NP	6.25	--
MW-515	12/12/11	12:01	11.60	4.71	--	NP	6.89	--
MW-515	03/27/12	13:56	11.60	4.11	--	NP	7.49	--
MW-515	06/27/12	17:00	11.60	4.68	--	NP	6.92	--
MW-515	09/25/12	7:35	11.60	5.34	--	NP	6.26	--
MW-515	12/13/12	10:12	11.60	4.06	--	NP	7.54	--
MW-515	03/25/13	10:10	11.60	4.53	--	NP	7.07	--
MW-515	06/24/13	11:45	11.60	5.06	--	NP	6.54	--
MW-515	09/23/13	13:40	11.60	4.96	--	NP	6.64	--
MW-515	12/16/13	10:19	11.60	5.15	--	NP	6.45	--
MW-515	03/26/14	8:18	11.60	4.26	--	NP	7.34	--
MW-515	06/16/14	13:30	11.60	4.98	--	NP	6.62	--
MW-515	09/29/14	15:35	11.60	4.89	--	NP	6.71	--
MW-515	12/08/14	12:03	11.60	4.27	--	NP	7.33	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-515	03/23/15	13:45	11.60	4.33	--	NP	7.27	--
MW-515	06/22/15	15:29	11.60	5.09	--	NP	6.51	--
MW-515	10/27/16	9:05	11.60	3.81	--	NP	7.79	--
MW-515	07/24/17	11:55	11.60	5.11	--	NP	6.49	--
MW-515	03/19/18	12:31	11.60	4.83	--	NP	6.77	--
MW-515	06/26/18	10:11	11.60	5.44	--	NP	6.16	--
MW-515	09/21/18	9:22	11.60	5.22	--	NP	6.38	--
MW-515	11/26/18	13:03	11.60	5.01	--	NP	6.59	--
MW-515	03/18/19	10:05	11.60	5.00	--	NP	6.60	--
MW-515	06/17/19	11:42	11.60	5.03	--	NP	6.57	--
MW-515	09/16/19	12:37	11.60	4.98	--	NP	6.62	--
MW-515	12/10/19	9:59	11.60	5.16	--	NP	6.44	--
MW-515	03/12/20	13:35	11.60	4.92	--	NP	6.68	--
MW-515	06/22/20	--	11.60	--	--	--	--	Wasp nest in well box. Well neither gauged nor sampled. Nest Removed.
MW-515	09/18/20	12:40	11.60	5.11	--	NP	6.49	--
MW-515	11/02/20	12:30	11.60	5.04	--	NP	6.56	--
MW-516	10/20/08	15:59	11.25	4.94	--	NP	6.31	--
MW-516	12/08/08	10:33	11.25	4.56	--	NP	6.69	--
MW-516	02/20/09	9:49	11.25	4.35	--	NP	6.90	--
MW-516	04/20/09	9:26	11.25	4.17	--	NP	7.08	--
MW-516	06/22/09	11:24	11.25	4.75	--	NP	6.50	--
MW-516	08/03/09	11:05	11.25	4.94	--	NP	6.31	--
MW-516	08/17/09	9:24	11.25	4.96	--	NP	6.29	--
MW-516	10/29/09	9:14	11.25	4.22	--	NP	7.03	--
MW-516	01/18/10	13:39	11.25	2.84	--	NP	8.41	--
MW-516	04/19/10	14:52	11.25	3.91	--	NP	7.34	--
MW-516	07/19/10	7:11	11.25	4.75	--	NP	6.50	--
MW-516	10/25/10	13:44	11.25	5.38	--	NP	5.87	--
MW-516	03/21/11	12:25	11.25	3.30	--	NP	7.95	--
MW-516	06/14/11	10:12	11.25	4.41	--	NP	6.84	--
MW-516	09/26/11	10:50	11.25	5.00	--	NP	6.25	--
MW-516	12/12/11	11:48	11.25	4.36	--	NP	6.89	--
MW-516	03/27/12	13:55	11.25	3.79	--	NP	7.46	--
MW-516	06/27/12	16:58	11.25	4.33	--	NP	6.92	--
MW-516	09/25/12	7:32	11.25	4.99	--	NP	6.26	--
MW-516	12/13/12	10:11	11.25	3.71	--	NP	7.54	--
MW-516	03/25/13	10:09	11.25	4.17	--	NP	7.08	--
MW-516	06/24/13	11:43	11.25	4.71	--	NP	6.54	--
MW-516	09/23/13	13:39	11.25	4.62	--	NP	6.63	--
MW-516	12/16/13	10:16	11.25	4.81	--	NP	6.44	--
MW-516	03/26/14	7:50	11.25	3.92	--	NP	7.33	--
MW-516	06/16/14	13:28	11.25	4.63	--	NP	6.62	--
MW-516	09/29/14	15:32	11.25	4.56	--	NP	6.69	--
MW-516	12/08/14	12:25	11.25	3.92	--	NP	7.33	--
MW-516	03/23/15	13:43	11.25	3.99	--	NP	7.26	--
MW-516	06/22/15	15:31	11.25	4.75	--	NP	6.50	--
MW-516	10/27/16	9:06	11.25	3.49	--	NP	7.76	--
MW-516	07/24/17	11:58	11.25	4.82	--	NP	6.43	--
MW-516	03/19/18	12:29	11.25	4.51	--	NP	6.74	--
MW-516	06/26/18	10:09	11.25	5.09	--	NP	6.16	--
MW-516	09/21/18	9:24	11.25	4.86	--	NP	6.39	--
MW-516	11/26/18	12:58	11.25	4.65	--	NP	6.60	--
MW-516	03/18/19	10:03	11.25	4.67	--	NP	6.58	--
MW-516	06/17/19	11:44	11.25	4.70	--	NP	6.55	--
MW-516	09/16/19	12:36	11.25	4.62	--	NP	6.63	--
MW-516	12/10/19	10:00	11.25	4.84	--	NP	6.41	--
MW-516	03/12/20	13:33	11.25	4.58	--	NP	6.67	--
MW-516	06/22/20	12:04	11.25	4.55	--	NP	6.70	--
MW-516	09/18/20	12:41	11.25	4.78	--	NP	6.47	--
MW-516	11/02/20	12:28	11.25	4.69	--	NP	6.56	--
MW-517	10/20/08	15:57	12.00	5.69	--	NP	6.31	--
MW-517	12/08/08	10:31	12.00	5.31	--	NP	6.69	--
MW-517	02/20/09	9:51	12.00	5.12	--	NP	6.88	--
MW-517	04/20/09	9:27	12.00	4.91	--	NP	7.09	--
MW-517	06/22/09	11:22	12.00	5.49	--	NP	6.51	--
MW-517	08/03/09	11:06	12.00	5.68	--	NP	6.32	--
MW-517	08/17/09	9:25	12.00	5.72	--	NP	6.28	--
MW-517	10/29/09	9:05	12.00	4.97	--	NP	7.03	--
MW-517	01/18/10	13:31	12.00	3.58	--	NP	8.42	--
MW-517	04/19/10	14:44	12.00	4.66	--	NP	7.34	--
MW-517	07/19/10	7:08	12.00	5.49	--	NP	6.51	--
MW-517	10/25/10	13:42	12.00	5.33	--	NP	6.67	--
MW-517	03/21/11	12:24	12.00	4.05	--	NP	7.95	--
MW-517	06/14/11	10:08	12.00	5.16	--	NP	6.84	--
MW-517	09/26/11	10:49	12.00	5.77	--	NP	6.23	--
MW-517	12/12/11	11:51	12.00	5.11	--	NP	6.89	--
MW-517	03/27/12	13:54	12.00	4.52	--	NP	7.48	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-517	06/27/12	16:54	12.00	5.08	--	NP	6.92	--
MW-517	09/25/12	7:30	12.00	5.78	--	NP	6.22	--
MW-517	12/13/12	10:10	12.00	4.46	--	NP	7.54	--
MW-517	03/25/13	10:08	12.00	4.93	--	NP	7.07	--
MW-517	06/24/13	11:41	12.00	5.48	--	NP	6.52	--
MW-517	09/23/13	13:35	12.00	5.38	--	NP	6.62	--
MW-517	12/16/13	10:13	12.00	5.55	--	NP	6.45	--
MW-517	03/26/14	7:55	12.00	4.69	--	NP	7.31	--
MW-517	06/16/14	13:26	12.00	5.38	--	NP	6.62	--
MW-517	09/29/14	15:31	12.00	5.30	--	NP	6.70	--
MW-517	12/08/14	12:22	12.00	4.68	--	NP	7.32	--
MW-517	03/23/15	13:40	12.00	4.73	--	NP	7.27	--
MW-517	06/22/15	15:27	12.00	5.49	--	NP	6.51	--
MW-517	10/27/16	9:07	12.00	4.22	--	NP	7.78	--
MW-517	07/24/17	12:00	12.00	5.55	--	NP	6.45	--
MW-517	03/19/18	12:28	12.00	5.27	--	NP	6.73	--
MW-517	06/26/18	10:08	12.00	5.82	--	NP	6.18	--
MW-517	09/21/18	9:26	12.00	5.62	--	NP	6.38	--
MW-517	11/26/18	13:02	12.00	5.42	--	NP	6.58	--
MW-517	03/18/19	10:02	12.00	5.41	--	NP	6.59	--
MW-517	06/17/19	11:46	12.00	5.45	--	NP	6.55	--
MW-517	09/16/19	12:35	12.00	5.39	--	NP	6.61	--
MW-517	12/10/19	10:02	12.00	5.58	--	NP	6.42	--
MW-517	03/12/20	13:31	12.00	5.32	--	NP	6.68	--
MW-517	06/22/20	12:02	12.00	5.29	--	NP	6.71	--
MW-517	09/18/20	12:43	12.00	5.52	--	NP	6.48	--
MW-517	11/02/20	12:22	12.00	5.45	--	NP	6.55	--
MW-518	10/20/08	15:56	14.60	8.51	--	NP	6.09	--
MW-518	12/08/08	10:44	14.60	8.37	--	NP	6.23	--
MW-518	02/20/09	9:45	14.60	8.29	--	NP	6.31	--
MW-518	04/20/09	9:17	14.60	8.40	--	NP	6.20	--
MW-518	06/22/09	11:29	14.60	8.68	--	NP	5.92	--
MW-518	08/03/09	11:04	14.60	8.79	--	NP	5.81	--
MW-518	08/17/09	9:20	14.60	9.00	--	NP	5.60	--
MW-518	10/29/09	9:19	14.60	8.42	--	NP	6.18	--
MW-518	01/18/10	13:43	14.60	6.65	--	NP	7.95	--
MW-518	04/19/10	14:56	14.60	8.01	--	NP	6.59	--
MW-518	07/19/10	7:14	14.60	8.73	--	NP	5.87	--
MW-518	10/25/10	13:47	14.60	8.05	--	NP	6.55	--
MW-518	03/21/11	12:27	14.60	7.45	--	NP	7.15	--
MW-518	06/14/11	10:09	14.60	8.45	--	NP	6.15	--
MW-518	09/26/11	10:52	14.60	8.73	--	NP	5.87	--
MW-518	12/12/11	12:03	14.60	7.30	--	NP	7.30	--
MW-518	03/27/12	13:57	14.60	7.75	--	NP	6.85	--
MW-518	06/27/12	17:02	14.60	8.28	--	NP	6.32	--
MW-518	09/25/12	7:37	14.60	8.96	--	NP	5.64	--
MW-518	12/13/12	10:09	14.60	7.49	--	NP	7.11	--
MW-518	03/25/13	10:11	14.60	8.30	--	NP	6.30	--
MW-518	06/24/13	11:30	14.60	8.44	--	NP	6.16	--
MW-518	09/23/13	13:41	14.60	8.32	--	NP	6.28	--
MW-518	12/16/13	11:56	14.60	8.65	--	NP	5.95	--
MW-518	03/26/14	8:20	14.60	7.82	--	NP	6.78	--
MW-518	06/16/14	13:32	14.60	8.53	--	NP	6.07	--
MW-518	09/29/14	13:43	14.60	8.25	--	NP	6.35	--
MW-518	12/08/14	12:30	14.60	7.57	--	NP	7.03	--
MW-518	03/23/15	13:50	14.60	7.92	--	NP	6.68	--
MW-518	06/22/15	15:24	14.60	8.70	--	NP	5.90	--
MW-518	10/27/16	9:04	14.60	7.47	--	NP	7.13	--
MW-518	07/24/17	11:47	14.60	8.62	--	NP	5.98	--
MW-518	03/19/18	12:33	14.60	8.29	--	NP	6.31	--
MW-518	06/26/18	10:15	14.60	8.95	--	NP	5.65	--
MW-518	09/21/18	9:07	14.60	8.73	--	NP	5.87	--
MW-518	11/26/18	13:07	14.60	8.12	--	NP	6.48	--
MW-518	02/07/19	11:58	14.60	8.24	--	NP	6.36	Not part of the quarterly monitoring program; gauged out of low tide window
MW-518	03/18/19	9:20	14.60	8.51	--	NP	6.09	--
MW-518	06/17/19	11:17	14.60	8.63	--	NP	5.97	--
MW-518	09/16/19	12:09	14.60	8.41	--	NP	6.19	--
MW-518	12/10/19	9:41	14.60	8.47	--	NP	6.13	--
MW-518	03/12/20	13:18	14.60	8.50	--	NP	6.10	--
MW-518	06/22/20	12:11	14.60	8.57	--	NP	6.03	--
MW-518	09/18/20	12:44	14.60	8.68	--	NP	5.92	--
MW-518	11/02/20	11:29	14.60	8.46	--	NP	6.14	--
MW-519	10/20/08	15:35	12.60	7.25	--	NP	5.35	--
MW-519	12/08/08	10:25	12.60	7.12	--	NP	5.48	--
MW-519	02/20/09	10:21	12.60	6.89	--	NP	5.71	--
MW-519	04/20/09	9:02	12.60	7.17	--	NP	5.43	--
MW-519	06/22/09	11:04	12.60	6.83	--	NP	5.77	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-519	08/03/09	10:57	12.60	6.96	--	NP	5.64	--
MW-519	08/17/09	8:47	12.60	7.21	--	NP	5.39	--
MW-519	10/29/09	8:56	12.60	6.75	--	NP	5.85	--
MW-519	01/18/10	13:25	12.60	4.80	--	NP	7.80	--
MW-519	04/19/10	14:37	12.60	6.41	--	NP	6.19	--
MW-519	07/19/10	7:05	12.60	7.15	--	NP	5.45	--
MW-519	10/25/10	13:36	12.60	6.60	--	NP	6.00	--
MW-519	03/21/11	12:19	12.60	5.71	--	NP	6.89	--
MW-519	06/14/11	10:03	12.60	6.88	--	NP	5.72	--
MW-519	09/26/11	10:37	12.60	7.11	--	NP	5.49	--
MW-519	12/12/11	11:42	12.60	7.14	--	NP	5.46	--
MW-519	03/27/12	13:46	12.60	6.14	--	NP	6.46	--
MW-519	06/27/12	16:42	12.60	6.84	--	NP	5.76	--
MW-519	09/25/12	7:20	12.60	7.26	--	NP	5.34	--
MW-519	12/13/12	9:54	12.60	6.01	--	NP	6.59	--
MW-519	03/25/13	9:59	12.60	6.99	--	NP	5.61	--
MW-519	06/24/13	11:24	12.60	6.90	--	NP	5.70	--
MW-519	09/23/13	13:30	12.60	6.83	--	NP	5.77	--
MW-519	12/16/13	9:48	12.60	7.34	--	NP	5.26	--
MW-519	03/26/14	7:54	12.60	6.62	--	NP	5.98	--
MW-519	06/16/14	13:20	12.60	6.92	--	NP	5.68	--
MW-519	09/29/14	15:04	12.60	6.68	--	NP	5.92	--
MW-519	12/08/14	11:37	12.60	6.02	--	NP	6.58	--
MW-519	03/23/15	13:17	12.60	6.30	--	NP	6.30	--
MW-519	06/22/15	15:19	12.60	7.09	--	NP	5.51	--
MW-519	10/27/16	8:57	12.60	5.75	--	NP	6.85	--
MW-519	07/24/17	11:45	12.60	7.02	--	NP	5.58	--
MW-519	03/19/18	12:19	12.60	6.70	--	NP	5.90	--
MW-519	06/26/18	9:55	12.60	7.29	--	NP	5.31	--
MW-519	09/21/18	8:45	12.60	7.17	--	NP	5.43	--
MW-519	11/26/18	12:42	12.60	6.60	--	NP	6.00	--
MW-519	03/18/19	9:52	12.60	7.18	--	NP	5.42	--
MW-519	06/17/19	10:59	12.60	7.11	--	NP	5.49	--
MW-519	09/16/19	12:29	12.60	6.94	--	NP	5.66	--
MW-519	12/10/19	10:10	12.60	6.83	--	NP	5.77	--
MW-519	03/12/20	12:59	12.60	7.00	--	NP	5.60	--
MW-519	06/22/20	11:41	12.60	6.99	--	NP	5.61	--
MW-519	09/18/20	11:54	12.60	7.05	--	NP	5.55	--
MW-519	11/02/20	11:40	12.60	7.28	--	NP	5.32	--
MW-520	10/20/08	15:50	13.31	7.95	--	NP	5.36	--
MW-520	12/08/08	10:23	13.31	7.83	--	NP	5.48	--
MW-520	02/20/09	9:23	13.31	7.61	--	NP	5.70	--
MW-520	04/20/09	9:05	13.31	7.88	--	NP	5.43	--
MW-520	06/22/09	11:19	13.31	7.55	--	NP	5.76	--
MW-520	08/03/09	10:56	13.31	7.69	--	NP	5.62	--
MW-520	08/17/09	8:49	13.31	7.92	--	NP	5.39	--
MW-520	10/29/09	8:55	13.31	7.46	--	NP	5.85	--
MW-520	01/18/10	13:26	13.31	5.51	--	NP	7.80	--
MW-520	04/19/10	14:35	13.31	7.12	--	NP	6.19	--
MW-520	07/19/10	7:03	13.31	7.85	--	NP	5.46	--
MW-520	10/25/10	13:33	13.31	7.30	--	NP	6.01	--
MW-520	03/21/11	12:18	13.31	5.38	--	NP	7.93	--
MW-520	06/14/11	10:01	13.31	7.59	--	NP	5.72	--
MW-520	09/26/11	10:43	13.31	7.82	--	NP	5.49	--
MW-520	12/12/11	11:40	13.31	7.85	--	NP	5.46	--
MW-520	03/27/12	13:47	13.31	6.84	--	NP	6.47	--
MW-520	06/27/12	16:40	13.31	7.53	--	NP	5.78	--
MW-520	09/25/12	7:22	13.31	7.94	--	NP	5.37	--
MW-520	12/13/12	9:53	13.31	6.71	--	NP	6.60	--
MW-520	03/25/13	10:00	13.31	7.70	--	NP	5.61	--
MW-520	06/24/13	11:22	13.31	7.59	--	NP	5.72	--
MW-520	09/23/13	13:28	13.31	7.52	--	NP	5.79	--
MW-520	12/16/13	9:47	13.31	8.04	--	NP	5.27	--
MW-520	03/26/14	7:50	13.31	7.31	--	NP	6.00	--
MW-520	06/16/14	13:17	13.31	7.62	--	NP	5.69	--
MW-520	09/29/14	15:00	13.31	7.39	--	NP	5.92	--
MW-520	12/08/14	11:40	13.31	6.69	--	NP	6.62	--
MW-520	03/23/15	13:11	13.31	7.00	--	NP	6.31	--
MW-520	06/22/15	15:17	13.31	7.80	--	NP	5.51	--
MW-520	10/27/16	8:56	13.31	6.48	--	NP	6.83	--
MW-520	07/24/17	11:34	13.31	7.71	--	NP	5.60	--
MW-520	03/19/18	12:17	13.31	7.42	--	NP	5.89	--
MW-520	06/26/18	9:57	13.31	7.96	--	NP	5.35	--
MW-520	09/21/18	8:41	13.31	7.88	--	NP	5.43	--
MW-520	11/26/18	12:40	13.31	7.31	--	NP	6.00	--
MW-520	03/18/19	9:55	13.31	7.86	--	NP	5.45	--
MW-520	06/17/19	10:57	13.31	7.81	--	NP	5.50	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-520	09/16/19	12:31	13.31	7.65	--	NP	5.66	--
MW-520	12/10/19	10:06	13.31	7.54	--	NP	5.77	--
MW-520	03/12/20	13:01	13.31	7.71	--	NP	5.60	--
MW-520	06/22/20	11:42	13.31	7.68	--	NP	5.63	--
MW-520	09/18/20	11:55	13.31	7.74	--	NP	5.57	--
MW-520	11/02/20	11:43	13.31	7.98	--	NP	5.33	--
MW-521	10/20/08	15:48	12.18	6.82	--	NP	5.36	--
MW-521	12/08/08	10:21	12.18	6.71	--	NP	5.47	--
MW-521	02/20/09	9:21	12.18	6.49	--	NP	5.69	--
MW-521	04/20/09	9:04	12.18	6.75	--	NP	5.43	--
MW-521	06/22/09	11:06	12.18	6.41	--	NP	5.77	--
MW-521	08/03/09	10:55	12.18	6.57	--	NP	5.61	--
MW-521	08/17/09	8:48	12.18	6.80	--	NP	5.38	--
MW-521	10/29/09	8:56	12.18	6.33	--	NP	5.85	--
MW-521	01/18/10	13:24	12.18	4.39	--	NP	7.79	--
MW-521	04/19/10	14:33	12.18	6.01	--	NP	6.17	--
MW-521	07/19/10	7:01	12.18	6.74	--	NP	5.44	--
MW-521	10/25/10	13:30	12.18	6.40	--	NP	5.78	--
MW-521	03/21/11	12:16	12.18	5.29	--	NP	6.89	--
MW-521	06/14/11	10:04	12.18	7.45	--	NP	4.73	--
MW-521	09/26/11	10:40	12.18	6.70	--	NP	5.48	--
MW-521	12/12/11	11:38	12.18	6.73	--	NP	5.45	--
MW-521	03/27/12	13:44	12.18	5.75	--	NP	6.43	--
MW-521	06/27/12	16:38	12.18	6.42	--	NP	5.76	--
MW-521	09/25/12	7:35	12.18	6.82	--	NP	5.36	--
MW-521	12/13/12	9:51	12.18	5.60	--	NP	6.58	--
MW-521	03/25/13	9:58	12.18	6.60	--	NP	5.58	--
MW-521	06/24/13	11:26	12.18	6.48	--	NP	5.70	--
MW-521	09/23/13	13:25	12.18	6.41	--	NP	5.77	--
MW-521	12/16/13	9:49	12.18	6.42	--	NP	5.76	--
MW-521	03/26/14	7:52	12.18	6.21	--	NP	5.97	--
MW-521	06/16/14	13:15	12.18	6.50	--	NP	5.68	--
MW-521	09/29/14	14:59	12.18	6.27	--	NP	5.91	--
MW-521	12/08/14	11:32	12.18	5.61	--	NP	6.57	--
MW-521	03/23/15	13:10	12.18	5.90	--	NP	6.28	--
MW-521	06/22/15	15:15	12.18	6.69	--	NP	5.49	--
MW-521	10/27/16	--	12.18	--	--	--	--	--
MW-521	07/24/17	11:36	12.18	6.67	--	NP	5.51	--
MW-521	03/19/18	12:19	12.18	6.33	--	NP	5.85	--
MW-521	06/26/18	9:55	12.18	6.89	--	NP	5.29	--
MW-521	09/21/18	8:44	12.18	6.76	--	NP	5.42	--
MW-521	11/26/18	12:41	12.18	6.21	--	NP	5.97	--
MW-521	03/18/19	9:53	12.18	6.77	--	NP	5.41	--
MW-521	06/17/19	10:53	12.18	6.71	--	NP	5.47	--
MW-521	09/16/19	12:30	12.18	6.53	--	NP	5.65	--
MW-521	12/10/19	10:08	12.18	6.43	--	NP	5.75	--
MW-521	03/12/20	13:02	12.18	6.61	--	NP	5.57	--
MW-521	06/22/20	11:43	12.18	6.58	--	NP	5.60	--
MW-521	09/18/20	12:35	12.18	6.36	--	NP	5.82	--
MW-521	11/02/20	11:45	12.18	6.87	--	NP	5.31	--
MW-522	10/20/08	15:50	13.82	8.49	--	NP	5.33	--
MW-522	12/08/08	10:19	13.82	8.35	--	NP	5.47	--
MW-522	02/20/09	9:23	13.82	8.10	--	NP	5.72	--
MW-522	04/20/09	9:07	13.82	8.41	--	NP	5.41	--
MW-522	06/22/09	11:15	13.82	8.11	--	NP	5.71	--
MW-522	08/03/09	10:53	13.82	8.25	--	NP	5.57	--
MW-522	08/17/09	8:54	13.82	8.51	--	NP	5.31	--
MW-522	10/29/09	8:56	13.82	7.99	--	NP	5.83	--
MW-522	01/18/10	13:22	13.82	6.03	--	NP	7.79	--
MW-522	04/19/10	14:31	13.82	7.65	--	NP	6.17	--
MW-522	07/19/10	7:02	13.82	8.43	--	NP	5.39	--
MW-522	10/25/10	13:33	13.82	7.80	--	NP	6.02	--
MW-522	03/21/11	12:18	13.82	6.97	--	NP	6.85	--
MW-522	06/14/11	9:59	13.82	8.13	--	NP	5.69	--
MW-522	09/26/11	10:46	13.82	8.40	--	NP	5.42	--
MW-522	12/12/11	11:42	13.82	8.38	--	NP	5.44	--
MW-522	03/27/12	13:49	13.82	7.42	--	NP	6.40	--
MW-522	06/27/12	16:39	13.82	8.08	--	NP	5.74	--
MW-522	09/25/12	7:32	13.82	8.48	--	NP	5.34	--
MW-522	12/13/12	9:50	13.82	7.22	--	NP	6.60	--
MW-522	03/25/13	10:00	13.82	8.25	--	NP	5.57	--
MW-522	06/24/13	11:20	13.82	8.17	--	NP	5.65	--
MW-522	09/23/13	13:30	13.82	8.04	--	NP	5.78	--
MW-522	12/16/13	9:43	13.82	8.58	--	NP	5.24	--
MW-522	03/26/14	7:46	13.82	7.84	--	NP	5.98	--
MW-522	06/16/14	13:18	13.82	8.19	--	NP	5.63	--
MW-522	09/29/14	13:27	13.82	7.90	--	NP	5.92	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-522	12/08/14	12:11	13.82	7.19	--	NP	6.63	--
MW-522	03/23/15	13:08	13.82	7.55	--	NP	6.27	--
MW-522	06/22/15	15:12	13.82	8.34	--	NP	5.48	--
MW-522	10/27/16	8:55	13.82	6.99	--	NP	6.83	--
MW-522	07/24/17	11:32	13.82	5.36	--	NP	8.46	--
MW-522	03/19/18	12:15	13.82	8.01	--	NP	5.81	--
MW-522	06/26/18	9:52	13.82	8.58	--	NP	5.24	--
MW-522	09/21/18	8:39	13.82	8.43	--	NP	5.39	--
MW-522	11/26/18	12:38	13.82	7.83	--	NP	5.99	--
MW-522	03/18/19	9:17	13.82	8.41	--	NP	5.41	--
MW-522	06/17/19	10:55	13.82	8.39	--	NP	5.43	--
MW-522	09/16/19	12:04	13.82	8.22	--	NP	5.60	--
MW-522	12/10/19	9:32	13.82	8.07	--	NP	5.75	--
MW-522	03/12/20	13:16	13.82	8.27	--	NP	5.55	--
MW-522	06/22/20	12:19	13.82	8.26	--	NP	5.56	--
MW-522	09/18/20	12:08	13.82	8.30	--	NP	5.52	--
MW-522	11/02/20	11:45	13.82	8.52	--	NP	5.30	--
MW-523	10/20/08	15:47	13.53	8.17	--	NP	5.36	--
MW-523	12/08/08	10:15	13.53	8.05	--	NP	5.48	--
MW-523	02/20/09	9:21	13.53	7.81	--	NP	5.72	--
MW-523	04/20/09	9:10	13.53	8.10	--	NP	5.43	--
MW-523	06/22/09	11:11	13.53	7.78	--	NP	5.75	--
MW-523	08/03/09	10:52	13.53	7.91	--	NP	5.62	--
MW-523	08/17/09	8:52	13.53	8.17	--	NP	5.36	--
MW-523	10/29/09	8:54	13.53	7.69	--	NP	5.84	--
MW-523	01/18/10	13:20	13.53	5.73	--	NP	7.80	--
MW-523	04/19/10	14:27	13.53	7.35	--	NP	6.18	--
MW-523	07/19/10	6:54	13.53	8.09	--	NP	5.44	--
MW-523	10/25/10	13:30	13.53	7.52	--	NP	6.01	--
MW-523	03/21/11	12:15	13.53	6.64	--	NP	6.89	--
MW-523	06/14/11	9:58	13.53	7.85	--	NP	5.68	--
MW-523	09/26/11	10:44	13.53	8.02	--	NP	5.51	--
MW-523	12/12/11	11:37	13.53	8.09	--	NP	5.44	--
MW-523	03/27/12	13:45	13.53	7.09	--	NP	6.44	--
MW-523	06/27/12	16:35	13.53	7.77	--	NP	5.76	--
MW-523	09/25/12	7:27	13.53	8.20	--	NP	5.33	--
MW-523	12/13/12	9:48	13.53	6.95	--	NP	6.58	--
MW-523	03/25/13	9:55	13.53	7.95	--	NP	5.58	--
MW-523	06/24/13	11:18	13.53	7.84	--	NP	5.69	--
MW-523	09/23/13	13:25	13.53	7.75	--	NP	5.78	--
MW-523	12/16/13	9:40	13.53	8.27	--	NP	5.26	--
MW-523	03/26/14	7:44	13.53	7.55	--	NP	5.98	--
MW-523	06/16/14	13:14	13.53	7.89	--	NP	5.64	--
MW-523	09/29/14	13:25	13.53	7.61	--	NP	5.92	--
MW-523	12/08/14	11:55	13.53	6.91	--	NP	6.62	--
MW-523	03/23/15	13:05	13.53	7.22	--	NP	6.31	--
MW-523	06/22/15	15:10	13.53	8.04	--	NP	5.49	--
MW-523	10/27/16	8:47	13.53	6.71	--	NP	6.82	--
MW-523	07/24/17	11:29	13.53	7.96	--	NP	5.57	--
MW-523	03/19/18	12:12	13.53	7.68	--	NP	5.85	--
MW-523	06/26/18	9:47	13.53	8.26	--	NP	5.27	--
MW-523	09/21/18	8:34	13.53	8.13	--	NP	5.40	--
MW-523	11/26/18	12:35	13.53	7.57	--	NP	5.96	--
MW-523	03/18/19	9:15	13.53	8.13	--	NP	5.40	--
MW-523	06/17/19	10:49	13.53	8.11	--	NP	5.42	--
MW-523	09/16/19	12:01	13.53	7.92	--	NP	5.61	--
MW-523	12/10/19	9:25	13.53	7.78	--	NP	5.75	--
MW-523	03/12/20	13:13	13.53	7.97	--	NP	5.56	--
MW-523	06/22/20	12:21	13.53	7.98	--	NP	5.55	--
MW-523	09/18/20	12:14	13.53	8.02	--	NP	5.51	--
MW-523	11/02/20	11:53	13.53	8.21	--	NP	5.32	--
MW-524	10/20/08	15:44	13.16	8.95	--	NP	4.21	--
MW-524	12/08/08	10:09	13.16	7.71	--	NP	5.45	--
MW-524	02/20/09	9:13	13.16	7.60	--	NP	5.56	--
MW-524	04/20/09	9:08	13.16	7.81	--	NP	5.35	--
MW-524	06/22/09	11:19	13.16	7.69	--	NP	5.47	--
MW-524	08/03/09	10:47	13.16	7.79	--	NP	5.37	--
MW-524	08/17/09	7:33	13.16	8.03	--	NP	5.13	--
MW-524	10/29/09	8:50	13.16	6.75	--	NP	6.41	--
MW-524	01/18/10	13:17	13.16	4.26	--	NP	8.90	--
MW-524	04/19/10	14:23	13.16	7.17	--	NP	5.99	--
MW-524	07/19/10	6:51	13.16	7.99	--	NP	5.17	--
MW-524	10/25/10	13:27	13.16	6.97	--	NP	6.19	--
MW-524	03/21/11	12:12	13.16	5.78	--	NP	7.38	--
MW-524	06/14/11	9:48	13.16	7.67	--	NP	5.49	--
MW-524	09/26/11	10:41	13.16	7.90	--	NP	5.26	--
MW-524	12/12/11	11:33	13.16	7.74	--	NP	5.42	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-524	03/27/12	13:41	13.16	6.60	--	NP	6.56	--
MW-524	06/27/12	16:32	13.16	7.49	--	NP	5.67	--
MW-524	09/25/12	7:18	13.16	8.05	--	NP	5.11	--
MW-524	12/13/12	9:44	13.16	6.20	--	NP	6.96	--
MW-524	03/25/13	11:28	13.16	7.68	--	NP	5.48	--
MW-524	06/24/13	11:19	13.16	7.75	--	NP	5.41	--
MW-524	09/23/13	13:20	13.16	7.55	--	NP	5.61	--
MW-524	12/16/13	9:41	13.16	8.02	--	NP	5.14	--
MW-524	03/26/14	7:39	13.16	6.98	--	NP	6.18	--
MW-524	06/16/14	13:10	13.16	7.79	--	NP	5.37	--
MW-524	09/29/14	13:20	13.16	7.36	--	NP	5.80	--
MW-524	12/08/14	11:53	13.16	6.56	--	NP	6.6	--
MW-524	03/23/15	13:02	13.16	6.85	--	NP	6.31	--
MW-524	06/22/15	15:04	13.16	7.89	--	NP	5.27	--
MW-524	10/27/16	8:45	13.16	5.49	--	NP	7.67	--
MW-524	07/24/17	11:25	13.16	7.78	--	NP	5.38	--
MW-524	03/19/18	12:10	13.16	7.30	--	NP	5.86	--
MW-524	06/26/18	9:45	13.16	7.95	--	NP	5.21	--
MW-524	09/21/18	8:28	13.16	7.94	--	NP	5.22	--
MW-524	11/26/18	12:28	13.16	7.19	--	NP	5.97	--
MW-524	03/18/19	9:03	13.16	7.65	--	NP	5.51	--
MW-524	06/17/19	10:41	13.16	7.91	--	NP	5.25	--
MW-524	09/16/19	11:59	13.16	7.71	--	NP	5.45	--
MW-524	12/10/19	9:19	13.16	7.46	--	NP	5.70	--
MW-524	03/12/20	13:09	13.16	7.61	--	NP	5.55	--
MW-524	06/22/20	12:25	13.16	7.77	--	NP	5.39	--
MW-524	09/18/20	12:17	13.16	7.83	--	NP	5.33	--
MW-524	11/02/20	11:59	13.16	7.92	--	NP	5.24	--
MW-525	06/27/12	16:50	12.62	6.02	--	NP	6.60	--
MW-525	09/25/12	7:27	12.62	6.57	--	NP	6.05	--
MW-525	12/13/12	10:05	12.62	5.40	--	NP	7.22	--
MW-525	03/25/13	10:04	12.62	6.01	--	NP	6.61	--
MW-525	06/24/13	12:54	12.62	6.30	--	NP	6.32	--
MW-525	09/23/13	13:20	12.62	6.18	--	NP	6.44	--
MW-525	12/16/13	9:58	12.62	6.45	--	NP	6.17	--
MW-525	03/26/14	8:02	12.62	5.58	--	NP	7.04	--
MW-525	06/16/14	14:50	12.62	6.30	--	<0.01	6.32	Film observed during gauging
MW-525	09/29/14	14:35	12.62	6.08	--	<0.01	6.54	Film observed during gauging
MW-525	12/08/14	11:42	12.62	5.45	--	NP	7.17	--
MW-525	03/23/15	16:00	12.62	5.75	--	NP	6.87	Sheen
MW-525	06/22/15	15:32	12.62	6.36	6.35	0.01	6.27	See **
MW-525	10/27/16	9:00	12.62	5.49	--	NP	7.13	--
MW-525	07/24/17	13:06	12.62	6.65	--	NP	5.97	--
MW-525	03/19/18	12:25	12.62	6.37	--	NP	6.25	--
MW-525	06/26/18	10:02	12.62	6.84	--	NP	5.78	--
MW-525	09/21/18	8:14	12.62	6.66	--	NP	5.96	--
MW-525	11/26/18	12:17	12.62	6.15	--	NP	6.47	--
MW-525	03/18/19	9:46	12.62	6.64	--	NP	5.98	--
MW-525	06/17/19	11:50	12.62	6.88	--	NP	5.74	--
MW-525	09/16/19	12:19	12.62	6.62	--	NP	6.00	--
MW-525	12/10/19	10:18	12.62	6.48	--	NP	6.14	--
MW-525	03/12/20	13:20	12.62	6.73	--	NP	5.89	--
MW-525	06/22/20	11:33	12.62	6.60	--	NP	6.02	--
MW-525	09/18/20	11:58	12.62	6.80	--	NP	5.82	--
MW-525	11/02/20	11:35	12.62	6.57	--	NP	6.05	--
MW-526	06/27/12	17:03	12.90	4.93	--	NP	7.97	--
MW-526	09/25/12	8:25	12.90	5.54	--	NP	7.36	--
MW-526	12/13/12	10:17	12.90	4.26	--	NP	8.64	--
MW-526	03/25/13	10:23	12.90	4.71	--	NP	8.19	--
MW-526	06/24/13	11:35	12.90	5.27	--	NP	7.63	--
MW-526	09/23/13	13:43	12.90	5.29	--	NP	7.61	--
MW-526	12/16/13	10:09	12.90	5.29	--	NP	7.61	--
MW-526	03/26/14	8:11	12.90	4.38	--	NP	8.52	--
MW-526	06/16/14	13:33	12.90	5.14	--	NP	7.76	--
MW-526	09/29/14	15:18	12.90	5.33	--	NP	7.57	--
MW-526	12/08/14	11:52	12.90	4.55	--	NP	8.35	--
MW-526	03/23/15	13:30	12.90	4.56	--	NP	8.34	--
MW-526	06/22/15	15:40	12.90	5.31	--	NP	7.59	--
MW-526	10/27/16	9:10	12.90	5.01	--	NP	7.89	--
MW-526	07/24/17	11:03	12.90	5.49	--	NP	7.41	--
MW-526	03/19/18	12:52	12.90	5.45	--	NP	7.45	--
MW-526	06/26/18	11:00	12.90	6.12	--	NP	6.78	--
MW-526	09/21/18	9:36	12.90	5.96	--	NP	6.94	--
MW-526	11/26/18	12:55	12.90	5.80	--	NP	7.10	--
MW-526	02/07/19	11:27	12.90	5.40	--	NP	7.50	Not part of the quarterly monitoring program; gauged out of low tide window
MW-526	03/18/19	9:28	12.90	5.59	--	NP	7.31	--
MW-526	06/17/19	11:45	12.90	5.89	--	NP	7.01	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-526	09/16/19	12:42	12.90	5.58	--	NP	7.32	--
MW-526	12/10/19	10:11	12.90	5.48	--	NP	7.42	--
MW-526	03/12/20	13:26	12.90	5.43	--	NP	7.47	--
MW-526	06/22/20	11:55	12.90	5.31	--	NP	7.59	--
MW-526	09/18/20	12:33	12.90	6.00	--	NP	6.90	--
MW-526	11/02/20	11:54	12.90	5.44	--	NP	7.46	--
MW-527	06/27/12	17:50	19.09	9.41	--	NP	9.68	--
MW-527	09/25/12	8:10	19.09	10.41	--	NP	8.68	--
MW-527	12/13/12	10:30	19.09	7.22	--	NP	11.87	--
MW-527	03/25/13	10:42	19.09	9.05	--	NP	10.04	--
MW-527	06/24/13	12:31	19.09	9.91	--	NP	9.18	--
MW-527	09/23/13	13:48	19.09	9.95	--	NP	9.14	--
MW-527	12/16/13	10:59	19.09	9.50	--	NP	9.59	--
MW-527	03/26/14	9:00	19.09	7.58	--	NP	11.51	--
MW-527	06/16/14	13:38	19.09	9.88	--	NP	9.21	--
MW-527	09/29/14	15:30	19.09	10.05	--	NP	9.04	--
MW-527	12/08/14	13:05	19.09	8.65	--	NP	10.44	--
MW-527	03/23/15	14:20	19.09	8.82	--	NP	10.27	--
MW-527	06/22/15	14:48	19.09	10.18	--	NP	8.91	--
MW-527	10/27/16	9:45	19.09	6.79	--	NP	12.30	--
MW-527	07/24/17	11:56	19.09	9.90	--	NP	9.19	--
MW-527	03/19/18	12:56	19.09	8.97	--	NP	10.12	--
MW-527	06/26/18	9:50	19.09	9.75	--	NP	9.34	--
MW-527	09/21/18	9:09	19.09	9.91	--	NP	9.18	--
MW-527	11/26/18	12:35	19.09	9.10	--	NP	9.99	--
MW-527	03/18/19	9:47	19.09	8.89	--	NP	10.20	--
MW-527	06/17/19	10:56	19.09	9.89	--	NP	9.20	--
MW-527	09/16/19	12:15	19.09	9.81	--	NP	9.28	--
MW-527	12/10/19	9:23	19.09	9.49	--	NP	9.60	--
MW-527	03/12/20	13:51	19.09	8.84	--	NP	10.25	--
MW-527	06/22/20	12:40	19.09	9.51	--	NP	9.58	--
MW-527	09/18/20	12:41	19.09	10.10	--	NP	8.99	--
MW-527	11/02/20	12:07	19.09	9.51	--	NP	9.58	--
MW-528	06/27/12	17:47	19.74	9.46	--	NP	10.28	--
MW-528	09/25/12	8:07	19.74	10.82	--	NP	8.92	--
MW-528	12/13/12	10:28	19.74	8.12	--	NP	11.62	--
MW-528	03/25/13	10:37	19.74	8.92	--	NP	10.82	--
MW-528	06/24/13	12:30	19.74	10.22	--	NP	9.52	--
MW-528	09/23/13	13:50	19.74	10.27	--	NP	9.47	--
MW-528	12/16/13	10:51	19.74	9.73	--	NP	10.01	--
MW-528	03/26/14	8:59	19.74	8.05	--	NP	11.69	--
MW-528	06/16/14	13:35	19.74	10.03	--	NP	9.71	--
MW-528	09/29/14	15:25	19.74	11.28	--	NP	8.46	--
MW-528	12/08/14	13:10	19.74	8.61	--	NP	11.13	--
MW-528	03/23/15	14:22	19.74	8.53	--	NP	11.21	--
MW-528	06/22/15	14:48	19.74	10.38	--	NP	9.36	--
MW-528	10/27/16	9:36	19.74	8.06	--	NP	11.68	--
MW-528	07/24/17	11:54	19.74	10.59	--	NP	9.15	--
MW-528	03/19/18	12:52	19.74	9.38	--	NP	10.36	--
MW-528	06/26/18	9:44	19.74	10.62	--	NP	9.12	--
MW-528	09/21/18	9:11	19.74	11.00	--	NP	8.74	--
MW-528	11/26/18	12:36	19.74	10.01	--	NP	9.73	--
MW-528	03/18/19	9:51	19.74	9.23	--	NP	10.51	--
MW-528	06/17/19	10:52	19.74	10.62	--	NP	9.12	--
MW-528	09/16/19	12:13	19.74	11.03	--	NP	8.71	--
MW-528	12/10/19	9:30	19.74	10.32	--	NP	9.42	--
MW-528	03/12/20	13:33	19.74	9.34	--	NP	10.40	--
MW-528	06/22/20	12:44	19.74	9.56	--	NP	10.18	--
MW-528	09/18/20	12:43	19.74	10.99	--	NP	8.75	--
MW-528	11/02/20	12:11	19.74	10.40	--	NP	9.34	--
MW-530	06/27/12	17:16	11.02	5.27	--	NP	5.75	--
MW-530	09/25/12	7:43	11.02	5.79	--	NP	5.23	--
MW-530	12/13/12	10:13	11.02	4.65	--	NP	6.37	--
MW-530	03/25/13	10:22	11.02	5.06	--	NP	5.96	--
MW-530	06/24/13	12:43	11.02	5.28	--	NP	5.74	--
MW-530	09/23/13	13:57	11.02	5.09	--	NP	5.93	--
MW-530	12/16/13	11:34	11.02	5.21	--	NP	5.81	--
MW-530	03/26/14	8:10	11.02	4.82	--	NP	6.20	--
MW-530	06/16/14	13:13	11.02	5.31	--	NP	5.71	--
MW-530	09/29/14	14:55	11.02	4.90	--	NP	6.12	--
MW-530	12/08/14	12:17	11.02	4.64	--	NP	6.38	--
MW-530	03/23/15	14:37	11.02	5.24	--	NP	5.78	--
MW-530	06/22/15	15:46	11.02	5.65	--	NP	5.37	--
MW-530	10/27/16	9:30	11.02	4.95	--	NP	6.07	--
MW-530	07/24/17	11:30	11.02	4.97	--	NP	6.05	--
MW-530	03/19/18	13:31	11.02	4.93	--	NP	6.09	--
MW-530	06/26/18	10:04	11.02	5.38	--	NP	5.64	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-530	09/21/18	8:40	11.02	5.33	--	NP	5.69	--
MW-530	11/26/18	13:12	11.02	4.20	--	NP	6.82	--
MW-530	03/18/19	9:07	11.02	5.64	--	NP	5.38	--
MW-530	06/17/19	--	--	--	--	--	--	Well Damaged - Repaired on 06/28/19
MW-530	09/16/19	12:55	12.73	6.62	--	NP	6.11	--
MW-530	12/10/19	9:44	12.73	6.58	--	NP	6.15	--
MW-530	03/12/20	13:02	12.73	6.71	--	NP	6.02	--
MW-530	06/22/20	12:14	12.73	6.89	--	NP	5.84	--
MW-530	09/18/20	12:09	12.73	6.79	--	NP	5.94	--
MW-530	11/02/20	11:43	12.73	6.53	--	NP	6.20	--
MW-531	06/27/12	16:51	13.26	7.50	--	NP	5.76	--
MW-531	09/25/12	7:24	13.26	7.90	--	NP	5.36	--
MW-531	12/13/12	9:58	13.26	6.70	--	NP	6.56	--
MW-531	03/25/13	10:03	13.26	7.67	--	NP	5.59	--
MW-531	06/24/13	11:30	13.26	7.54	--	NP	5.72	--
MW-531	09/23/13	13:25	13.26	7.43	--	NP	5.83	--
MW-531	12/16/13	10:01	13.26	8.00	--	NP	5.26	--
MW-531	03/26/14	7:56	13.26	7.28	--	NP	5.98	--
MW-531	06/16/14	13:27	13.26	7.59	--	NP	5.67	--
MW-531	09/29/14	15:07	13.26	7.35	--	NP	5.91	--
MW-531	12/08/14	11:42	13.26	6.64	--	NP	6.62	--
MW-531	03/23/15	13:27	13.26	6.95	--	NP	6.31	--
MW-531	06/22/15	15:25	13.26	7.75	--	NP	5.51	--
MW-531	10/27/16	9:00	13.26	6.42	--	NP	6.84	--
MW-531	07/24/17	11:45	13.26	7.69	--	NP	5.57	--
MW-531	03/19/18	12:22	13.26	7.35	--	NP	5.91	--
MW-531	06/26/18	10:05	13.26	7.93	--	NP	5.33	--
MW-531	09/21/18	8:53	13.26	7.81	--	NP	5.45	--
MW-531	11/26/18	12:50	13.26	7.25	--	NP	6.01	--
MW-531	03/18/19	9:56	13.26	7.83	--	NP	5.43	--
MW-531	06/17/19	11:52	13.26	7.80	--	NP	5.46	--
MW-531	09/16/19	12:33	13.26	7.60	--	NP	5.66	--
MW-531	12/10/19	10:04	13.26	7.47	--	NP	5.79	--
MW-531	03/12/20	13:18	13.26	7.66	--	NP	5.60	--
MW-531	06/22/20	11:48	13.26	7.64	--	NP	5.62	--
MW-531	09/18/20	12:01	13.26	7.70	--	NP	5.56	--
MW-531	11/02/20	11:38	13.26	7.92	--	NP	5.34	--
MW-532	06/27/12	16:48	13.38	6.62	--	NP	6.76	--
MW-532	09/25/12	7:26	13.38	7.11	--	NP	6.27	--
MW-532	12/13/12	9:57	13.38	6.00	--	NP	7.38	--
MW-532	03/25/13	10:05	13.38	6.61	--	NP	6.77	--
MW-532	06/24/13	11:28	13.38	6.79	--	NP	6.59	--
MW-532	09/23/13	13:28	13.38	6.80	--	NP	6.58	--
MW-532	12/16/13	9:56	13.38	7.02	--	NP	6.36	--
MW-532	03/26/14	7:59	13.38	6.31	--	NP	7.07	--
MW-532	06/16/14	13:24	13.38	6.78	--	NP	6.60	--
MW-532	09/29/14	15:11	13.38	6.70	--	NP	6.68	--
MW-532	12/08/14	11:45	13.38	6.14	--	NP	7.24	--
MW-532	03/23/15	13:25	13.38	6.28	--	NP	7.10	--
MW-532	06/22/15	15:23	13.38	7.00	--	NP	6.38	--
MW-532	10/27/16	8:54	13.38	6.52	--	NP	6.86	--
MW-532	07/24/17	11:13	13.38	7.49	--	NP	5.89	--
MW-532	03/19/18	12:25	13.38	7.33	--	NP	6.05	--
MW-532	06/26/18	10:06	13.38	7.75	--	NP	5.63	--
MW-532	09/21/18	8:55	13.38	7.71	--	NP	5.67	--
MW-532	11/26/18	12:47	13.38	6.97	--	NP	6.41	--
MW-532	03/18/19	9:59	13.38	7.68	--	NP	5.70	--
MW-532	06/17/19	11:54	13.38	7.98	--	NP	5.40	--
MW-532	09/16/19	12:24	13.38	7.60	--	NP	5.78	--
MW-532	12/10/19	10:17	13.38	7.30	--	NP	6.08	--
MW-532	03/12/20	13:36	13.38	7.63	--	NP	5.75	--
MW-532	06/22/20	11:35	13.38	7.54	--	NP	5.84	--
MW-532	09/18/20	12:06	13.38	7.81	--	NP	5.57	--
MW-532	11/02/20	11:51	13.38	7.58	--	NP	5.80	--
MW-533	03/19/18	12:36	11.79	5.10	--	NP	6.69	--
MW-533	06/26/18	9:46	11.79	5.58	--	NP	6.21	--
MW-533	09/21/18	8:27	11.79	5.49	--	NP	6.30	--
MW-533	11/26/18	12:21	11.79	4.60	--	NP	7.19	--
MW-533	03/18/19	9:16	11.79	5.54	--	NP	6.25	--
MW-533	06/17/19	11:21	11.79	5.27	--	NP	6.52	--
MW-533	09/16/19	12:13	11.79	5.17	--	NP	6.62	--
MW-533	12/10/19	9:47	11.79	5.34	--	NP	6.45	--
MW-533	03/12/20	13:14	11.79	5.08	--	NP	6.71	--
MW-533	06/22/20	12:02	11.79	5.15	--	NP	6.64	--
MW-533	09/18/20	11:46	11.79	5.28	--	NP	6.51	--
MW-533	11/02/20	11:16	11.79	5.11	--	NP	6.68	--
MW-534	03/19/18	12:37	10.28	3.63	--	NP	6.65	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
MW-534	06/26/18	9:41	10.28	4.00	--	NP	6.28	--
MW-534	09/21/18	8:24	10.28	3.94	--	NP	6.34	--
MW-534	11/26/18	12:23	10.28	3.30	--	NP	6.98	--
MW-534	03/18/19	9:27	10.28	3.61	--	NP	6.67	--
MW-534	06/17/19	11:20	10.28	3.68	--	NP	6.60	--
MW-534	09/16/19	12:39	10.28	3.54	--	NP	6.74	--
MW-534	12/10/19	9:51	10.28	3.76	--	NP	6.52	--
MW-534	03/12/20	13:33	10.28	3.50	--	NP	6.78	--
MW-534	06/22/20	12:19	10.28	5.32	--	NP	4.96	--
MW-534	09/18/20	11:34	10.28	3.71	--	NP	6.57	--
MW-534	11/02/20	11:21	10.28	3.55	--	NP	6.73	--
MW-535	03/19/18	12:40	11.55	4.90	--	NP	6.65	--
MW-535	06/26/18	9:48	11.55	5.36	--	NP	6.19	--
MW-535	09/21/18	8:26	11.55	5.33	--	NP	6.22	--
MW-535	11/26/18	12:22	11.55	4.18	--	NP	7.37	--
MW-535	03/18/19	9:12	11.55	4.71	--	NP	6.84	--
MW-535	06/17/19	11:23	11.55	5.09	--	NP	6.46	--
MW-535	09/16/19	12:15	11.55	4.97	--	NP	6.58	--
MW-535	12/10/19	9:48	11.55	5.12	--	NP	6.43	--
MW-535	03/12/20	13:12	11.55	4.88	--	NP	6.67	--
MW-535	06/22/20	12:05	11.55	4.96	--	NP	6.59	--
MW-535	09/18/20	11:38	11.55	4.98	--	NP	6.57	--
MW-535	11/02/20	11:19	11.55	4.78	--	NP	6.77	--
Piezometers								
P-1 ^S	08/03/09	10:23	16.47	7.80	--	NP	8.67	--
P-1 ^S	08/17/09	9:43	16.47	6.60	--	NP	9.87	--
P-1 ^S	10/29/09	9:32	16.47	4.37	--	NP	12.10	--
P-1 ^S	01/18/10	13:31	16.47	1.26	--	NP	15.21	--
P-1 ^S	04/19/10	15:46	16.47	3.21	--	NP	13.26	--
P-1 ^S	07/19/10	8:02	16.47	4.65	--	NP	11.82	--
P-1 ^S	10/25/10	14:26	16.47	4.61	--	NP	11.86	--
P-1 ^S	03/21/11	12:46	16.47	2.16	--	NP	14.31	--
P-1 ^S	06/14/11	11:08	16.47	3.98	--	NP	12.49	--
P-1 ^S	09/26/11	11:27	16.47	6.76	--	NP	9.71	--
P-1 ^S	12/12/11	12:49	16.47	3.87	--	NP	12.60	--
P-1 ^S	03/27/12	14:30	16.47	2.55	--	NP	13.92	--
P-1 ^S	06/27/12	17:43	16.47	3.64	--	NP	12.83	--
P-1 ^S	09/25/12	8:35	16.47	6.45	--	NP	10.02	--
P-1 ^S	12/13/12	10:24	16.47	1.95	--	NP	14.52	--
P-1 ^S	03/25/13	10:45	16.47	2.78	--	NP	13.69	--
P-1 ^S	06/24/13	12:10	16.47	4.84	--	NP	11.63	--
P-1 ^S	09/23/13	14:07	16.47	6.02	--	NP	10.45	--
P-1 ^S	12/16/13	10:41	16.47	4.23	--	NP	12.24	--
P-1 ^S	03/26/14	8:36	16.47	2.42	--	NP	14.05	--
P-1 ^S	06/16/14	13:55	16.47	4.60	--	NP	11.87	--
P-1 ^S	09/29/14	15:57	16.47	7.02	--	NP	9.45	--
P-1 ^S	12/08/14	12:56	16.47	2.81	--	NP	13.66	--
P-1 ^S	03/23/15	14:26	16.47	2.93	--	NP	13.54	--
P-1 ^S	06/22/15	15:06	16.47	5.23	--	NP	11.24	--
P-1 ^S	10/27/16	9:55	16.47	2.06	--	NP	14.41	--
P-1 ^S	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-1 ^S	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-1 ^S	06/26/18	11:05	16.47	5.23	--	NP	11.24	Not part of the monitoring network
P-2 ^D	08/03/09	10:21	15.00	7.39	--	NP	7.61	--
P-2 ^D	08/17/09	9:46	15.00	7.46	--	NP	7.54	--
P-2 ^D	10/29/09	8:57	15.00	6.38	--	NP	8.62	--
P-2 ^D	01/18/10	13:28	15.00	6.30	--	NP	8.70	--
P-2 ^D	04/19/10	15:47	15.00	6.68	--	NP	8.32	--
P-2 ^D	07/19/10	7:46	15.00	7.02	--	NP	7.98	--
P-2 ^D	10/25/10	14:29	15.00	6.65	--	NP	8.35	--
P-2 ^D	03/21/11	12:49	15.00	6.26	--	NP	8.74	--
P-2 ^D	06/14/11	11:10	15.00	7.01	--	NP	7.99	--
P-2 ^D	09/26/11	11:15	15.00	7.01	--	NP	7.99	--
P-2 ^D	12/12/11	12:52	15.00	6.79	--	NP	8.21	--
P-2 ^D	03/27/12	14:31	15.00	6.35	--	NP	8.65	--
P-2 ^D	06/27/12	17:48	15.00	6.63	--	NP	8.37	--
P-2 ^D	09/25/12	8:12	15.00	7.14	--	NP	7.86	--
P-2 ^D	12/13/12	10:26	15.00	6.19	--	NP	8.81	--
P-2 ^D	03/25/13	10:49	15.00	6.48	--	NP	8.52	--
P-2 ^D	06/24/13	12:15	15.00	6.81	--	NP	8.19	--
P-2 ^D	09/23/13	14:10	15.00	6.84	--	NP	8.16	--
P-2 ^D	12/16/13	10:48	15.00	6.81	--	NP	8.19	--
P-2 ^D	03/26/14	8:38	15.00	7.32	--	NP	7.68	--
P-2 ^D	06/16/14	13:52	15.00	6.86	--	NP	8.14	--
P-2 ^D	09/29/14	15:45	15.00	6.79	--	NP	8.21	--
P-2 ^D	12/08/14	12:55	15.00	6.31	--	NP	8.69	--
P-2 ^D	03/23/15	14:28	15.00	6.26	--	NP	8.74	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
P-2 ^D	06/22/15	15:03	15.00	7.00	--	NP	8.00	--
P-2 ^D	10/27/16	9:52	15.00	6.25	--	NP	8.75	--
P-2 ^D	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-2 ^D	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-2 ^D	06/26/18	10:40	15.00	6.90	--	NP	8.1	Not part of the monitoring network
P-3 ^S	08/03/09	10:21	14.84	4.47	--	NP	10.37	--
P-3 ^S	08/17/09	9:48	14.84	4.77	--	NP	10.07	--
P-3 ^S	10/29/09	8:59	14.84	3.35	--	NP	11.49	--
P-3 ^S	01/18/10	13:25	14.84	0.81	--	NP	14.03	--
P-3 ^S	04/19/10	15:48	14.84	2.36	--	NP	12.48	--
P-3 ^S	07/19/10	7:48	14.84	3.72	--	NP	11.12	--
P-3 ^S	10/25/10	14:31	14.84	4.04	--	NP	10.80	--
P-3 ^S	03/21/11	12:49	14.84	1.19	--	NP	13.65	--
P-3 ^S	06/14/11	11:11	14.84	3.05	--	NP	11.79	--
P-3 ^S	09/26/11	11:17	14.84	5.18	--	NP	9.66	--
P-3 ^S	12/12/11	12:54	14.84	2.95	--	NP	11.89	--
P-3 ^S	03/27/12	14:32	14.84	1.63	--	NP	13.21	--
P-3 ^S	06/27/12	17:54	14.84	3.11	--	NP	11.73	--
P-3 ^S	09/25/12	8:14	14.84	4.80	--	NP	10.04	--
P-3 ^S	12/13/12	10:27	14.84	1.42	--	NP	13.42	--
P-3 ^S	03/25/13	10:51	14.84	2.16	--	NP	12.68	--
P-3 ^S	06/24/13	12:16	14.84	4.02	--	NP	10.82	--
P-3 ^S	09/23/13	14:12	14.84	4.49	--	NP	10.35	--
P-3 ^S	12/16/13	10:47	14.84	3.55	--	NP	11.29	--
P-3 ^S	03/26/14	8:39	14.84	1.48	--	NP	13.36	--
P-3 ^S	06/16/14	13:54	14.84	3.80	--	NP	11.04	--
P-3 ^S	09/29/14	15:43	14.84	4.80	--	NP	10.04	--
P-3 ^S	12/08/14	13:00	14.84	1.90	--	NP	12.94	--
P-3 ^S	03/23/15	14:29	14.84	2.10	--	NP	12.74	--
P-3 ^S	06/22/15	15:01	14.84	4.24	--	NP	10.60	--
P-3 ^S	10/27/16	9:50	14.84	1.15	--	NP	13.69	--
P-3 ^S	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-3 ^S	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-3 ^S	06/26/18	10:46	14.84	4.14	--	NP	10.7	Not part of the monitoring network
P-4 ^D	08/03/09	10:19	16.38	8.64	--	NP	7.74	--
P-4 ^D	08/17/09	9:49	16.38	8.75	--	NP	7.63	--
P-4 ^D	10/29/09	9:08	16.38	7.64	--	NP	8.74	--
P-4 ^D	01/18/10	13:21	16.38	7.56	--	NP	8.82	--
P-4 ^D	04/19/10	15:49	16.38	7.92	--	NP	8.46	--
P-4 ^D	07/19/10	7:50	16.38	8.28	--	NP	8.10	--
P-4 ^D	10/25/10	14:34	16.38	7.93	--	NP	8.45	--
P-4 ^D	03/21/11	12:52	16.38	7.51	--	NP	8.87	--
P-4 ^D	06/14/11	11:14	16.38	8.23	--	NP	8.15	--
P-4 ^D	09/26/11	11:20	16.38	8.41	--	NP	7.97	--
P-4 ^D	12/12/11	13:01	16.38	8.00	--	NP	8.38	--
P-4 ^D	03/27/12	14:34	16.38	7.60	--	NP	8.78	--
P-4 ^D	06/27/12	17:30	16.38	7.92	--	NP	8.46	--
P-4 ^D	09/25/12	8:19	16.38	8.37	--	NP	8.01	--
P-4 ^D	12/13/12	10:30	16.38	7.45	--	NP	8.93	--
P-4 ^D	03/25/13	10:54	16.38	7.79	--	NP	8.59	--
P-4 ^D	06/24/13	12:22	16.38	8.00	--	NP	8.38	--
P-4 ^D	09/23/13	14:03	16.38	8.11	--	NP	8.27	--
P-4 ^D	12/16/13	10:49	16.38	8.05	--	NP	8.33	--
P-4 ^D	03/26/14	8:47	16.38	7.56	--	NP	8.82	--
P-4 ^D	06/16/14	13:45	16.38	8.01	--	NP	8.37	--
P-4 ^D	09/29/14	15:35	16.38	8.03	--	NP	8.35	--
P-4 ^D	12/08/14	12:58	16.38	7.53	--	NP	8.85	--
P-4 ^D	03/23/15	14:30	16.38	7.82	--	NP	8.56	--
P-4 ^D	06/22/15	14:56	16.38	8.28	--	NP	8.10	--
P-4 ^D	10/27/16	9:48	16.38	7.43	--	NP	8.95	--
P-4 ^D	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-4 ^D	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-4 ^D	06/26/18	10:28	16.38	8.19	--	NP	8.19	Not part of the monitoring network
P-5 ^S	08/03/09	10:19	16.85	6.47	--	NP	10.38	--
P-5 ^S	08/17/09	9:50	16.85	6.78	--	NP	10.07	--
P-5 ^S	10/29/09	9:10	16.85	5.85	--	NP	11.00	--
P-5 ^S	01/18/10	13:18	16.85	2.76	--	NP	14.09	--
P-5 ^S	04/19/10	15:50	16.85	4.31	--	NP	12.54	--
P-5 ^S	07/19/10	7:54	16.85	5.71	--	NP	11.14	--
P-5 ^S	10/25/10	14:33	16.85	6.03	--	NP	10.82	--
P-5 ^S	03/21/11	12:53	16.85	3.17	--	NP	13.68	--
P-5 ^S	06/14/11	11:15	16.85	5.00	--	NP	11.85	--
P-5 ^S	09/26/11	11:21	16.85	7.13	--	NP	9.72	--
P-5 ^S	12/12/11	13:02	16.85	4.93	--	NP	11.92	--
P-5 ^S	03/27/12	14:35	16.85	3.60	--	NP	13.25	--
P-5 ^S	06/27/12	17:32	16.85	5.07	--	NP	11.78	--
P-5 ^S	09/25/12	8:21	16.85	6.78	--	NP	10.07	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
P-5 ^S	12/13/12	10:32	16.85	3.01	--	NP	13.84	--
P-5 ^S	03/25/13	10:52	16.85	4.00	--	NP	12.85	--
P-5 ^S	06/24/13	12:23	16.85	5.95	--	NP	10.90	--
P-5 ^S	09/23/13	14:01	16.85	6.46	--	NP	10.39	--
P-5 ^S	12/16/13	10:48	16.85	5.46	--	NP	11.39	--
P-5 ^S	03/26/14	8:48	16.85	3.31	--	NP	13.54	--
P-5 ^S	06/16/14	13:41	16.85	5.68	--	NP	11.17	--
P-5 ^S	09/29/14	15:37	16.85	6.79	--	NP	10.06	--
P-5 ^S	12/08/14	13:02	16.85	3.67	--	NP	13.18	--
P-5 ^S	03/23/15	14:32	16.85	3.88	--	NP	12.97	--
P-5 ^S	06/22/15	15:04	16.85	6.17	--	NP	10.68	--
P-5 ^S	10/27/16	9:46	16.85	3.20	--	NP	13.65	--
P-5 ^S	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-5 ^S	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-5 ^S	06/26/18	10:38	16.85	6.10	--	NP	10.75	Not part of the monitoring network
P-6 ^S	08/03/09	10:16	17.67	9.90	--	NP	7.77	--
P-6 ^S	08/17/09	9:53	17.67	6.31	--	NP	11.36	--
P-6 ^S	10/29/09	9:12	17.67	4.92	--	NP	12.75	--
P-6 ^S	01/18/10	13:10	17.67	3.09	--	NP	14.58	--
P-6 ^S	04/19/10	15:52	17.67	4.63	--	NP	13.04	--
P-6 ^S	07/19/10	7:59	17.67	5.21	--	NP	12.46	--
P-6 ^S	10/25/10	14:29	17.67	4.81	--	NP	12.86	--
P-6 ^S	03/21/11	12:54	17.67	3.41	--	NP	14.26	--
P-6 ^S	06/14/11	11:20	17.67	5.05	--	NP	12.62	--
P-6 ^S	09/26/11	11:25	17.67	6.40	--	NP	11.27	--
P-6 ^S	12/12/11	13:05	17.67	5.07	--	NP	12.60	--
P-6 ^S	03/27/12	14:39	17.67	3.90	--	NP	13.77	--
P-6 ^S	06/27/12	17:39	17.67	4.64	--	NP	13.03	--
P-6 ^S	09/25/12	8:17	17.67	5.94	--	NP	11.73	--
P-6 ^S	12/13/12	10:35	17.67	3.71	--	NP	13.96	--
P-6 ^S	03/25/13	10:45	17.67	4.60	--	NP	13.07	--
P-6 ^S	06/24/13	12:24	17.67	5.22	--	NP	12.45	--
P-6 ^S	09/23/13	13:58	17.67	5.23	--	NP	12.44	--
P-6 ^S	12/16/13	10:56	17.67	4.91	--	NP	12.76	--
P-6 ^S	03/26/14	8:55	17.67	3.74	--	NP	13.93	--
P-6 ^S	06/16/14	13:50	17.67	5.16	--	NP	12.51	--
P-6 ^S	09/29/14	15:59	17.67	6.77	--	NP	10.90	--
P-6 ^S	12/08/14	13:09	17.67	4.05	--	NP	13.62	--
P-6 ^S	03/23/15	14:35	17.67	3.97	--	NP	13.70	--
P-6 ^S	06/22/15	14:50	17.67	5.38	--	NP	12.29	--
P-6 ^S	10/27/16	9:42	17.67	3.55	--	NP	14.12	--
P-6 ^S	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-6 ^S	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-6 ^S	06/26/18	10:37	17.67	5.41	--	NP	12.26	Not part of the monitoring network
P-7 ^D	08/03/09	10:17	17.63	9.72	--	NP	7.91	--
P-7 ^D	08/17/09	9:52	17.63	9.80	--	NP	7.83	--
P-7 ^D	10/29/09	8:55	17.63	6.15	--	NP	11.48	--
P-7 ^D	01/18/10	13:14	17.63	8.56	--	NP	9.07	--
P-7 ^D	04/19/10	15:51	17.63	8.94	--	NP	8.69	--
P-7 ^D	07/19/10	8:00	17.63	7.36	--	NP	10.27	--
P-7 ^D	10/25/10	14:31	17.63	8.97	--	NP	8.66	--
P-7 ^D	03/21/11	12:52	17.63	8.62	--	NP	9.01	--
P-7 ^D	06/14/11	11:18	17.63	9.24	--	NP	8.39	--
P-7 ^D	09/26/11	11:23	17.63	9.55	--	NP	8.08	--
P-7 ^D	12/12/11	13:04	17.63	9.04	--	NP	8.59	--
P-7 ^D	03/27/12	14:36	17.63	8.66	--	NP	8.97	--
P-7 ^D	06/27/12	17:37	17.63	8.94	--	NP	8.69	--
P-7 ^D	09/25/12	8:19	17.63	9.49	--	NP	8.14	--
P-7 ^D	12/13/12	10:37	17.63	8.49	--	NP	9.14	--
P-7 ^D	03/25/13	10:47	17.63	8.81	--	NP	8.82	--
P-7 ^D	06/24/13	12:26	17.63	9.13	--	NP	8.50	--
P-7 ^D	09/23/13	14:00	17.63	9.16	--	NP	8.47	--
P-7 ^D	12/16/13	10:57	17.63	9.11	--	NP	8.52	--
P-7 ^D	03/26/14	8:50	17.63	8.66	--	NP	8.97	--
P-7 ^D	06/16/14	13:49	17.63	9.07	--	NP	8.56	--
P-7 ^D	09/29/14	15:59	17.63	9.12	--	NP	8.51	--
P-7 ^D	12/08/14	13:06	17.63	8.60	--	NP	9.03	--
P-7 ^D	03/23/15	14:34	17.63	8.82	--	NP	8.81	--
P-7 ^D	06/22/15	14:51	17.63	9.29	--	NP	8.34	--
P-7 ^D	10/27/16	9:44	17.63	8.56	--	NP	9.07	--
P-7 ^D	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-7 ^D	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-7 ^D	06/26/18	10:33	17.63	9.00	--	NP	8.63	Not part of the monitoring network
P-8 ^D	08/03/09	10:24	16.07	8.52	--	NP	7.55	--
P-8 ^D	08/17/09	9:41	16.07	8.92	--	NP	7.15	--
P-8 ^D	10/29/09	8:53	16.07	8.03	--	NP	8.04	--
P-8 ^D	01/18/10	13:33	16.07	7.47	--	NP	8.60	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
P-8 ^D	04/19/10	15:45	16.07	7.80	--	NP	8.27	--
P-8 ^D	07/19/10	8:03	16.07	8.12	--	NP	7.95	--
P-8 ^D	10/25/10	14:24	16.07	7.80	--	NP	8.27	--
P-8 ^D	03/21/11	12:45	16.07	7.49	--	NP	8.58	--
P-8 ^D	06/14/11	11:05	16.07	8.16	--	NP	7.91	--
P-8 ^D	09/26/11	11:20	16.07	8.34	--	NP	7.73	--
P-8 ^D	12/12/11	12:48	16.07	7.94	--	NP	8.13	--
P-8 ^D	03/27/12	14:29	16.07	7.49	--	NP	8.58	--
P-8 ^D	06/27/12	17:41	16.07	7.78	--	NP	8.29	--
P-8 ^D	09/25/12	8:10	16.07	8.29	--	NP	7.78	--
P-8 ^D	12/13/12	10:21	16.07	7.34	--	NP	8.73	--
P-8 ^D	03/25/13	10:49	16.07	7.60	--	NP	8.47	--
P-8 ^D	06/24/13	12:12	16.07	7.89	--	NP	8.18	--
P-8 ^D	09/23/13	14:05	16.07	8.01	--	NP	8.06	--
P-8 ^D	12/16/13	10:40	16.07	7.93	--	NP	8.14	--
P-8 ^D	03/26/14	8:35	16.07	7.41	--	NP	8.66	--
P-8 ^D	06/16/14	13:53	16.07	7.95	--	NP	8.12	--
P-8 ^D	09/29/14	15:50	16.07	7.94	--	NP	8.13	--
P-8 ^D	12/08/14	12:55	16.07	7.45	--	NP	8.62	--
P-8 ^D	03/23/14	14:33	16.07	7.60	--	NP	8.47	--
P-8 ^D	06/22/15	15:09	16.07	8.18	--	NP	7.89	--
P-8 ^D	10/27/16	9:58	16.07	7.41	--	NP	8.66	--
P-8 ^D	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-8 ^D	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-8 ^D	06/26/18	10:26	16.07	8.01	--	NP	8.06	Not part of the monitoring network
P-9	08/25/11	12:51	13.86	7.57	--	NP	6.29	--
P-9	09/02/11	10:04	13.86	7.58	--	NP	6.28	--
P-9	09/09/11	7:58	13.86	7.61	--	NP	6.25	--
P-9	09/16/11	14:42	13.86	7.64	--	NP	6.22	--
P-9	09/26/11	11:03	13.86	8.62	--	NP	5.24	--
P-9	10/28/11	9:52	13.86	7.59	--	NP	6.27	--
P-9	11/18/11	8:55	13.86	7.45	--	NP	6.41	--
P-9	12/12/11	13:55	13.86	7.00	--	NP	6.86	--
P-9	03/27/12	14:17	13.86	6.39	--	NP	7.47	--
P-9	06/27/12	17:23	13.86	6.95	--	NP	6.91	--
P-9	09/25/12	7:59	13.86	7.62	--	NP	6.24	--
P-9	12/13/12	10:50	13.86	6.33	--	NP	7.53	--
P-9	03/25/13	11:34	13.86	6.79	--	NP	7.07	--
P-9	06/24/13	12:04	13.86	7.33	--	NP	6.53	--
P-9	09/23/13	14:59	13.86	7.23	--	NP	6.63	--
P-9	12/16/13	10:31	13.86	7.38	--	NP	6.48	--
P-9	03/26/14	9:13	13.86	6.52	--	NP	7.34	--
P-9	06/16/14	13:50	13.86	7.25	--	NP	6.61	--
P-9	09/29/14	15:48	13.86	7.16	--	NP	6.70	--
P-9	12/08/14	12:48	13.86	6.53	--	NP	7.33	--
P-9	03/23/15	14:00	13.86	6.59	--	NP	7.27	--
P-9	06/22/15	15:24	13.86	7.36	--	NP	6.50	--
P-9	10/27/16	9:48	13.86	6.09	--	NP	7.77	--
P-9	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-9	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-9	06/26/18	--	--	--	--	--	--	Not part of the monitoring network
Staff Gauges								
D-2	10/20/08	17:15	5.60	1.20	--	NP	6.80	--
D-2	12/08/08	11:05		1.24	--	NP	6.84	--
D-2	02/20/09	9:55		0.60	--	NP	6.20	--
D-2	04/20/09	9:49		0.20	--	NP	5.80	--
D-2	06/22/09	10:50	8.67 ³	2.30	--	NP	6.37	--
D-2	06/22/09	12:35		2.44	--	NP	6.23	--
D-2	08/03/09	9:40		2.43	--	NP	6.24	--
D-2	08/03/09	12:05		2.45	--	NP	6.22	--
D-2	08/17/09	7:53		2.50	--	NP	6.17	--
D-2	08/17/09	11:03		2.50	--	NP	6.17	--
D-2	10/29/09	7:52		2.35	--	NP	6.32	--
D-2	10/29/09	10:14		2.25	--	NP	6.42	--
D-2	01/18/10	12:38		1.38	--	NP	7.29	--
D-2	01/18/10	14:43		1.76	--	NP	6.91	--
D-2	04/19/10	14:14		2.32	--	NP	6.35	--
D-2	04/19/10	16:16		2.44	--	NP	6.23	--
D-2	07/19/10	5:46		2.26	--	NP	6.41	--
D-2	07/19/10	9:13		2.45	--	NP	6.22	--
D-2	10/25/10	12:23		1.00	--	NP	7.67	--
D-2	10/25/10	15:40		1.60	--	NP	7.07	--
D-2	03/21/11	11:21		2.27	--	NP	6.40	--
D-2	03/21/11	14:06		2.45	--	NP	6.22	--
D-2	06/14/11	9:23		2.64	--	NP	6.03	--
D-2	06/14/11	12:54		2.45	--	NP	6.22	--
D-2	09/26/11	9:25		2.30	--	NP	6.37	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
D-2	09/26/11	--		2.39	--	NP	6.28	--
D-2	12/12/11	10:21		2.09	--	NP	6.58	--
D-2	12/12/11	14:47		2.50	--	NP	6.17	--
D-2	03/27/12	12:49		2.00	--	NP	6.67	--
D-2	03/27/12	15:51		2.88	--	NP	5.79	--
D-2	06/27/12	15:28		2.50	--	NP	6.17	--
D-2	06/27/12	18:45		2.50	--	NP	6.17	--
D-2	09/25/12	6:20		2.60	--	NP	6.07	--
D-2	09/25/12	9:42		2.53	--	NP	6.14	--
D-2	12/13/12	9:10		1.80	--	NP	6.87	--
D-2	12/13/12	12:05		2.34	--	NP	6.33	--
D-2	03/25/13	9:07		2.07	--	NP	6.60	--
D-2	03/25/13	11:40		2.53	--	NP	6.14	--
D-2	06/24/13	10:44		1.60	--	NP	7.07	--
D-2	06/24/13	12:44		2.30	--	NP	6.37	--
D-2	09/23/13	12:10		1.49	--	NP	7.18	--
D-2	09/23/13	15:45		2.59	--	NP	6.08	--
D-2	12/16/13	9:40		2.65	--	NP	6.02	--
D-2	12/16/13	11:36		2.74	--	NP	5.93	--
D-2	03/26/14	7:05		1.51	--	NP	7.16	--
D-2	03/26/14	10:10		2.32	--	NP	6.35	--
D-2	06/16/14	12:59		2.74	--	NP	5.93	--
D-2	06/16/14	14:47		2.83	--	NP	5.84	--
D-2	09/29/14	14:15		2.24	--	NP	6.43	--
D-2	09/29/14	16:15		2.80	--	NP	5.87	--
D-2	12/08/14	10:40		2.15	--	NP	6.52	--
D-2	12/08/14	13:40		2.66	--	NP	6.01	--
D-2	03/23/15	12:50		1.87	--	NP	6.80	--
D-2	03/26/15	15:39		2.69	--	NP	5.98	--
D-2	06/22/15	14:06		2.89	--	NP	5.78	--
D-2	06/22/15	16:29		2.91	--	NP	5.76	--
D-2	10/27/16	7:55		2.11	--	NP	6.56	--
D-2	10/27/16	10:27		2.63	--	NP	6.04	--
D-2	07/24/17	11:28		4.50	--	NP	4.17	--
D-2	07/24/17	14:10		2.70	--	NP	5.97	--
D-2	03/19/18	12:08		2.17	--	NP	6.50	--
D-2	03/19/18	13:46		2.63	--	NP	6.04	--
D-2	06/26/18	--	--	--	--	--	--	Not part of the monitoring network
D-3	10/20/08	17:18	5.20	1.90	--	NP	7.10	--
D-3	12/08/08	11:09		1.78	--	NP	6.98	--
D-3	02/20/09	9:59		1.20	--	NP	6.40	--
D-3	04/20/09	9:53		1.20	--	NP	6.40	--
D-3	06/22/09	11:02	8.39 ³	2.19	--	NP	6.20	--
D-3	06/22/09	12:40		2.24	--	NP	6.15	--
D-3	08/03/09	9:49		2.30	--	NP	6.09	--
D-3	08/03/09	12:10		2.23	--	NP	6.16	--
D-3	08/17/09	7:57		2.19	--	NP	6.20	--
D-3	08/17/09	11:08		2.40	--	NP	5.99	--
D-3	10/29/09	7:55		2.07	--	NP	6.32	--
D-3	10/29/09	10:13		2.04	--	NP	6.35	--
D-3	01/18/10	12:23		1.22	--	NP	7.17	--
D-3	01/18/10	14:46		1.52	--	NP	6.87	--
D-3	04/19/10	14:18		2.12	--	NP	6.27	--
D-3	04/19/10	16:22		2.29	--	NP	6.10	--
D-3	07/19/10	5:55		2.10	--	NP	6.29	--
D-3	07/19/10	9:17		2.28	--	NP	6.11	--
D-3	10/25/10	12:29		0.80	--	NP	7.59	--
D-3	10/25/10	15:42		1.45	--	NP	6.94	--
D-3	03/21/11	11:25		2.30	--	NP	6.09	--
D-3	03/21/11	14:05		2.50	--	NP	5.89	--
D-3	06/14/11	9:06		2.05	--	NP	6.34	--
D-3	06/14/11	12:59		2.35	--	NP	6.04	--
D-3	09/26/11	9:45		2.19	--	NP	6.20	--
D-3	09/26/11	--		2.08	--	NP	6.31	--
D-3	12/12/11	10:27		3.16	--	NP	5.23	--
D-3	12/12/11	14:55		3.47	--	NP	4.92	--
D-3	03/27/12	12:53		2.94	--	NP	5.45	--
D-3	03/27/12	15:55		3.53	--	NP	4.86	--
D-3	06/27/12	15:22		-- ⁴	--	NP	-- ⁴	--
D-3	06/27/12	18:52	8.70 ⁵	2.60	--	NP	6.10	--
D-3	09/25/12	6:25		2.72	--	NP	5.98	--
D-3	09/25/12	9:45		2.73	--	NP	5.97	--
D-3	12/13/12	9:15		1.90	--	NP	6.80	--
D-3	12/13/12	12:09		2.40	--	NP	6.30	--
D-3	03/25/13	9:15		2.20	--	NP	6.50	--
D-3	03/25/13	11:37		2.60	--	NP	6.10	--
D-3	06/24/13	10:49		1.81	--	NP	6.89	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
D-3	06/24/13	12:37		2.45	--	NP	6.25	--
D-3	09/23/13	12:45		1.42	--	NP	7.28	--
D-3	09/23/13	15:55		2.65	--	NP	6.05	--
D-3	12/16/13	9:44		2.55	--	NP	6.15	--
D-3	12/16/13	11:39		2.65	--	NP	6.05	--
D-3	03/26/14	7:10		1.25	--	NP	7.45	--
D-3	03/26/14	10:15		2.06	--	NP	6.64	--
D-3	06/16/14	12:59		2.44	--	NP	6.26	--
D-3	06/16/14	14:49		2.54	--	NP	6.16	--
D-3	09/29/14	14:10		2.83	--	NP	5.87	--
D-3	09/29/14	--	--	--	--	--	--	D-3 appears to have been moved
D-3	12/08/14	10:50		3.07	--	NP	--	Top of casing elevation not available
D-3	12/08/14	13:50		0.59	--	NP	--	Top of casing elevation not available
D-3	03/23/15	12:44		2.67	--	NP	--	Top of casing elevation not available
D-3	03/23/15	15:40		3.56	--	NP	--	Top of casing elevation not available
D-3	06/22/15	14:00		3.82	--	NP	--	Top of casing elevation not available
D-3	06/22/15	16:30		3.83	--	NP	--	Top of casing elevation not available
D-3	10/27/16	8:05		3.02	--	NP	--	Top of casing elevation not available
D-3	10/27/16	10:21		3.49	--	NP	--	Top of casing elevation not available
D-3	07/24/17	--	--	--	--	--	--	Unable to access. Top of casing elevation not available
D-3	07/24/17	--	--	--	--	--	--	Unable to access. Top of casing elevation not available
D-3	03/19/18	12:14		3.09	--	NP	--	Top of casing elevation not available
D-3	03/19/18	13:42		3.51	--	NP	--	Top of casing elevation not available
D-3	06/26/18	--	--	--	--	--	--	Not part of the monitoring network
D-4 ²	06/22/09	10:19	9.39 ³	2.96	--	NP	6.43	--
D-4 ²	06/22/09	12:54		2.81	--	NP	6.58	--
D-4 ²	08/03/09	10:09		2.93	--	NP	6.46	--
D-4 ²	08/03/09	12:25		2.95	--	NP	6.44	--
D-4 ²	08/17/09	8:10		2.92	--	NP	6.47	--
D-4 ²	08/17/09	11:19		2.94	--	NP	6.45	--
D-4 ²	10/29/09	8:19		2.74	--	NP	6.65	--
D-4 ²	10/29/09	10:34		2.59	--	NP	6.80	--
D-4 ²	01/18/10	12:55		2.06	--	NP	7.33	--
D-4 ²	01/18/10	15:00		2.35	--	NP	7.04	--
D-4 ²	04/19/10	14:33		2.87	--	NP	6.52	--
D-4 ²	04/19/10	16:39		2.95	--	NP	6.44	--
D-4 ²	07/19/10	6:19		2.90	--	NP	6.49	--
D-4 ²	07/19/10	9:34		3.00	--	NP	6.39	--
D-4 ²	10/25/10	12:45		1.70	--	NP	7.69	--
D-4 ²	10/25/10	15:36		2.40	--	NP	6.99	--
D-4 ²	03/21/11	11:48		2.83	--	NP	6.56	--
D-4 ²	03/21/11	14:15		2.90	--	NP	6.49	--
D-4 ²	06/14/11	9:00		2.35	--	NP	7.04	--
D-4 ²	06/14/11	13:12		2.93	--	NP	6.46	--
D-4 ²	09/26/11	10:00		2.82	--	NP	6.57	--
D-4 ²	09/26/11	--		3.03	--	NP	6.36	--
D-4 ²	12/12/11	10:48		2.86	--	NP	6.53	--
D-4 ²	12/12/11	15:05		2.18	--	NP	7.21	--
D-4 ²	03/27/12	13:05		2.70	--	NP	6.69	--
D-4 ²	03/27/12	16:14		3.01	--	NP	6.38	--
D-4 ²	06/27/12	15:43		3.05	--	NP	6.34	--
D-4 ²	06/27/12	19:02		3.00	--	NP	6.39	--
D-4 ²	09/25/12	6:35		3.09	--	NP	6.30	--
D-4 ²	09/25/12	9:55		3.05	--	NP	6.34	--
D-4 ²	12/13/12	9:35		2.45	--	NP	6.94	--
D-4 ²	12/13/12	12:35		2.77	--	NP	6.62	--
D-4 ²	03/25/13	9:30		2.83	--	NP	6.56	--
D-4 ²	03/25/13	11:05		3.05	--	NP	6.34	--
D-4 ²	06/24/13	11:00		2.42	--	NP	6.97	--
D-4 ²	06/24/13	13:30		3.04	--	NP	6.35	--
D-4 ²	09/23/13	13:00		2.16	--	NP	7.23	--
D-4 ²	09/23/13	16:10		3.08	--	NP	6.31	--
D-4 ²	12/16/13	9:54		3.08	--	NP	6.31	--
D-4 ²	12/16/13	11:50		3.13	--	NP	6.26	--
D-4 ²	03/26/14	7:20		1.90	--	NP	7.49	--
D-4 ²	03/26/14	10:20		2.69	--	NP	6.70	--
D-4 ²	06/16/14	13:00		3.02	--	NP	6.37	--
D-4 ²	06/16/14	14:57		3.04	--	NP	6.35	--
D-4 ²	09/29/14	14:25		2.66	--	NP	6.73	--
D-4 ²	09/29/14	16:00		2.98	--	NP	6.41	--
D-4 ²	12/08/14	11:00		2.50	--	NP	6.89	--
D-4 ²	12/08/14	13:55		3.00	--	NP	6.39	--
D-4 ²	03/23/15	12:55		2.18	--	NP	7.21	--
D-4 ²	03/23/15	15:32		2.94	--	NP	6.45	--
D-4 ²	06/22/15	14:38		3.08	--	NP	6.31	--
D-4 ²	06/22/15	16:46		3.11	--	NP	6.28	--
D-4 ²	10/27/16	8:25		2.39	--	NP	7.00	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
D-4 ²	10/27/16	10:48		2.68	--	NP	6.71	--
D-4 ²	07/24/17	11:46		2.74	--	NP	6.65	--
D-4 ²	07/24/17	14:22		2.90	--	NP	6.49	--
D-4 ²	03/19/18	12:30		2.56	--	NP	6.83	--
D-4 ²	03/19/18	13:30		2.78	--	NP	6.61	--
D-4 ²	06/26/18	--	--	--	--	--	--	Not part of the monitoring network
D-5	10/20/08	--	--	--	--	--	--	--
D-5	12/08/08	11:18	5.60	1.25	--	NP	6.85	--
D-5	02/20/09	9:45		0.30	--	NP	5.90*	See *
D-5	04/20/09	9:22		0.10	--	NP	5.70	--
D-5	06/22/09	10:39	9.09 ³	2.88	--	NP	6.21	--
D-5	06/22/09	12:28		3.10	--	NP	5.99	--
D-5	08/03/09	9:32		3.10	--	NP	5.99	--
D-5	08/03/09	11:59		3.12	--	NP	5.97	--
D-5	08/17/09	7:46		3.12	--	NP	5.97	--
D-5	08/17/09	10:56		3.17	--	NP	5.92	--
D-5	10/29/09	7:45		2.99	--	NP	6.10	--
D-5	10/29/09	10:04		2.88	--	NP	6.21	--
D-5	01/18/10	12:29		1.76	--	NP	7.33	--
D-5	01/18/10	14:35		2.10	--	NP	6.99	--
D-5	04/19/10	14:05		2.87	--	NP	6.22	--
D-5	04/19/10	16:10		Dry	--	NP	DRY	--
D-5	07/19/10	5:32		2.78	--	NP	6.31	--
D-5	07/19/10	9:04		Dry	--	NP	DRY	--
D-5	10/25/10	12:15		1.50	--	NP	7.59	--
D-5	10/25/10	15:33		2.11	--	NP	6.98	--
D-5	03/21/11	11:13		2.80	--	NP	6.29	--
D-5	03/21/11	13:54		3.10	--	NP	5.99	--
D-5	06/14/11	8:50		2.65	--	NP	6.44	--
D-5	06/14/11	12:46		3.19	--	NP	5.90	--
D-5	09/26/11	8:50		2.69	--	NP	6.40	--
D-5	09/26/11	--		2.99	--	NP	6.10	--
D-5	12/12/11	10:09		2.49	--	NP	6.60	--
D-5	12/12/11	14:35		2.99	--	NP	6.10	--
D-5	03/27/12	12:36		2.44	--	NP	6.65	--
D-5	03/27/12	15:41		3.13	--	NP	5.96	--
D-5	06/27/12	15:10		3.20	--	NP	5.89	--
D-5	06/27/12	18:37		3.20	--	NP	5.89	--
D-5	09/25/12	6:10		Dry	--	NP	DRY	--
D-5	09/25/12	9:30		Dry	--	NP	DRY	--
D-5	12/13/12	9:00		2.20	--	NP	6.89	--
D-5	12/13/12	12:00		2.77	--	NP	6.32	--
D-5	03/25/13	8:55		2.55	--	NP	6.54	--
D-5	03/25/13	11:49		Dry	--	NP	DRY	--
D-5	06/24/13	10:33		2.08	--	NP	7.01	--
D-5	06/24/13	13:16		2.90	--	NP	6.19	--
D-5	09/23/13	12:10		1.88	--	NP	7.21	--
D-5	09/23/13	15:30		2.09	--	NP	7.00	--
D-5	12/16/13	9:29		3.01	--	NP	6.08	--
D-5	12/16/13	11:22		Dry	--	NP	DRY	--
D-5	03/26/14	6:50		1.66	--	NP	7.43	--
D-5	03/26/14	9:55		2.50	--	NP	6.59	--
D-5	06/16/14	12:48		2.95	--	NP	6.14	--
D-5	06/16/14	14:40		3.13	--	NP	5.96	--
D-5	09/29/14	13:50		2.29	--	NP	6.80	--
D-5	09/29/14	16:22		3.08	--	NP	6.01	--
D-5	12/08/14	10:20		2.29	--	NP	6.80	--
D-5	12/08/14	13:25		2.74	--	NP	6.35	--
D-5	03/23/15	12:34		2.20	--	NP	6.89	--
D-5	03/23/15	15:25		2.86	--	NP	6.23	--
D-5	06/22/15	14:12		3.20	--	NP	5.89	--
D-5	06/22/15	16:22		3.21	--	NP	5.88	--
D-5	10/27/16	7:40		2.27	--	NP	6.82	--
D-5	10/27/16	10:36		2.87	--	NP	6.22	--
D-5	07/24/17	11:12		2.61	--	NP	6.48	--
D-5	07/24/17	14:00		3.00	--	NP	6.09	--
D-5	03/19/18	12:03		2.35	--	NP	6.74	--
D-5	03/19/18	13:51		2.79	--	NP	6.30	--
D-5	06/26/18	--	--	--	--	--	--	Not part of the monitoring network
D-7	10/20/08	17:23	7.60	Dry	--	NP	DRY	--
D-7	12/08/08	11:31		Dry	--	NP	DRY	--
D-7	02/20/09	10:48		Dry	--	NP	DRY	--
D-7	04/20/09	10:23		Dry	--	NP	DRY	--
TB	10/20/08	17:05	4.70	2.30	--	NP	7.00	--
TB	12/08/08	11:16		2.50	--	NP	7.20	--
TB	02/20/09	9:37		1.10	--	NP	5.80	--
TB	04/20/09	9:20		1.33	--	NP	6.03	--

Table 3-3
Groundwater Elevation Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date	Time	Top of Casing Elevation (feet)	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)	Comment
TB	06/22/09	10:35		1.63	--	NP	6.33	--
TB	06/22/09	12:25		1.85	--	NP	6.55	--
TB	08/03/09	9:27		1.83	--	NP	6.53	--
TB	08/03/09	11:56		1.83	--	NP	6.53	--
TB	08/17/09	7:41		1.83	--	NP	6.53	--
TB	08/17/09	10:52		1.88	--	NP	6.58	--
TB	10/29/09	7:41		1.69	--	NP	6.39	--
TB	10/29/09	10:01		1.64	--	NP	6.34	--
TB	01/18/10	12:18		0.45	--	NP	5.15	--
TB	01/18/10	14:24		0.90	--	NP	5.60	--
TB	04/19/10	14:00		1.74	--	NP	6.44	--
TB	04/19/10	16:07		1.94	--	NP	6.64	--
TB	07/19/10	5:28		1.59	--	NP	6.29	--
TB	07/19/10	9:01		1.97	--	NP	6.67	--
TB	10/25/10	12:11		4.20	--	NP	8.90	--
TB	10/25/10	15:30		0.86	--	NP	5.56	--
TB	06/14/11	8:47		1.49	--	NP	6.19	--
TB	06/14/11	12:42		1.95	--	NP	6.65	--
TB	09/26/11	8:47		1.51	--	NP	6.21	--
TB	09/26/11	--		1.74	--	NP	6.44	--
TB	12/12/11	10:05		1.19	--	NP	5.89	--
TB	12/12/11	14:30		1.70	--	NP	6.40	--
TB	03/27/12	12:32		1.33	--	NP	6.03	--
TB	03/27/12	15:37		1.99	--	NP	6.69	--
TB	06/27/12	15:00		1.95	--	NP	6.65	--
TB	06/27/12	18:31		2.00	--	NP	6.70	--
TB	09/25/12	6:05		1.99	--	NP	6.69	--
TB	09/25/12	9:25		1.98	--	NP	6.68	--
TB	12/13/12	8:55		0.90	--	NP	5.60	--
TB	12/13/12	11:55		1.49	--	NP	6.19	--
TB	03/25/13	8:50		1.40	--	NP	6.10	--
TB	03/25/13	11:54		1.94	--	NP	6.64	--
TB	06/24/13	10:27		1.03	--	NP	5.73	--
TB	06/24/13	12:18		1.73	--	NP	6.43	--
TB	09/23/13	12:00		2.51	--	NP	7.21	--
TB	09/23/13	15:20		3.68	--	NP	8.38	--
TB	12/16/13	9:24		1.76	--	NP	6.46	--
TB	12/16/13	11:17		2.03	--	NP	6.73	--
TB	03/26/14	6:40		2.43	--	NP	7.13	--
TB	03/26/14	9:50		3.22	--	NP	7.92	--
TB	06/16/14	12:45		3.56	--	NP	8.26	--
TB	06/16/14	14:37		3.74	--	NP	8.44	--
TB	09/29/14	13:45		1.83	--	NP	6.53	--
TB	09/29/14	16:30		3.81	--	NP	8.51	--
TB	12/08/14	10:10		2.85	--	NP	7.55	--
TB	12/08/14	13:20		3.31	--	NP	8.01	--
TB	03/23/15	12:30		2.93	--	NP	7.63	--
TB	03/23/15	15:20		3.50	--	NP	8.20	--
TB	06/22/15	14:29		3.85	--	NP	8.55	--
TB	06/22/15	16:14		3.88	--	NP	8.58	--
TB	10/27/16	7:37		2.99	--	NP	7.69	--
TB	10/27/16	10:39		3.50	--	NP	8.20	--
TB	07/24/17	11:09		3.29	--	NP	7.99	--
TB	07/24/17	13:58		3.64	--	NP	8.34	--
TB	03/19/18	11:59		3.12	--	NP	7.82	--
TB	03/19/18	13:56		3.53	--	NP	8.23	--
TB	06/26/18	--	--	--	--	--	--	Not part of the monitoring network

Notes:

amsl= Above Mean Sea Level

LNAPL = Light non-aqueous phase liquid

"--" = Not measured.

NP = Not present

¹ Staff gauge D-1 re-established prior to June 2009 sampling event.

² Staff gauge D-4 was established prior to June 2009 sampling event to replace staff gauge D-7 which is not within the Willow Creek channel.

³ Staff gauges were resurveyed by OTAK Incorporated June 1, 2009. Staff gauges were surveyed from top of gauge and water levels are now measured from top down to water.

⁴ Staff gauge D-3 was down during the first gauging of the June 27, 2012 gauging event. A depth to water reading was unable to be collected.

⁵ Staff gauge D-3 was re-established for the second gauging of the June 27, 2012 gauging event and was re-surveyed by OTAK Incorporated on 8/8/12.

* = Potentially anomalous reading that will be confirmed with subsequent gauging data.

** = Groundwater elevation adjusted for the presence of LNAPL.

+ = LNAPL thickness could not be accurately measured due to LNAPL coating oil/water interface probe tip.

^ = Measurement error. LNAPL measurement was not confirmed with a bailer at the time the measurement was collected. The measurement was re-collected on

^S = Shallow piezometer (installed between 12 and 13 feet below ground surface).

^D = Deep piezometer (installed between 22 and 25 feet below ground surface).

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)								Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)					
		B		T		E		X												
		CUL=16	--	--	--	--	--	CUL=0.05	--											
LM-2*	10/23/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	UU	243	U	50	U	485	U	389	UU	512
LM-2*	12/11/08	0.50	U	0.50	U	0.50	U	1.00	U	0.008	UU	243	U	50	U	485	U	389	UU	512
LM-2*	02/26/09	0.5	U	NA		NA		NA		0.008	UU	1,300		50	U	510		1,835		503
LM-2*	04/23/09	0.5	U	NA		NA		NA		0.007	UU	1,100		50	U	230		1,355		503
LM-2*	06/25/09	0.5	U	NA		NA		NA		0.007	UU	520		50	U	370		915		505
LM-2*	08/20/09	0.5	U	NA		NA		NA		0.012	UU	290		50	U	71		386		512
LM-2*	10/30/09	0.5	U	NA		NA		NA		0.013	UU	1,500		50	U	700		2,225		502
LM-2*	01/20/10	NA		NA		NA		NA		NA		1,100		50	U	500		1,625		503
LM-2*	04/21/10	NA		NA		NA		NA		NA		1,100		50	U	460		1,585		503
LM-2*	07/22/10	NA		NA		NA		NA		NA		1,500		50	U	550		2,075		502
LM-2*	10/29/10	0.5	U	NA		NA		NA		0.012	UU	2,500		50	U	1,400		3,925		501
LM-2*	03/23/11	NA		NA		NA		NA		NA		1,600		50	U	1,000		2,625		502
LM-2*	06/16/11	NA		NA		NA		NA		NA		1,800		50	U	520		2,345		502
LM-2*	09/28/11	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574
LM-2*	12/16/11	0.2	U	NA		NA		NA		0.007	UU	28	U	50	U	66	U	72	UU	575
LM-2*	03/29/12	NA		NA		NA		NA		NA		3,900		50	U	2,000		5,925		501
LM-2*	06/29/12	NA		NA		NA		NA		NA		32	U	50	U	74	U	78	UU	568
LM-2*	09/27/12	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574
LM-2*	12/18/12	0.2	U	NA		NA		NA		0.011		30	U	50	U	71	U	76	UU	571
LM-2*	03/27/13	NA		NA		NA		NA		NA		31	U	50	U	72	U	77	UU	570
LM-2*	06/26/13	NA		NA		NA		NA		NA		30		250	U	69	U	190		664
LM-2*	09/24/13	NA		NA		NA		NA		NA		33		50	U	70	U	93		556
LM-2*	12/18/13	0.2	U	NA		NA		NA		0.008	UU	30	U	50	U	69	U	75	UU	572
LM-2*	03/27/14	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574
LM-2*	06/17/14	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574
LM-2*	09/30/14	NA		NA		NA		NA		NA		38		50	U	68	U	97		553
LM-2*	12/09/14	0.3		NA		NA		NA		0.008	UU	29	U	50	U	67	U	73	UU	574
LM-2*	03/25/15	NA		NA		NA		NA		NA		29	U	50	U	68	U	74	UU	573
LM-2*	06/24/15	NA		NA		NA		NA		NA		28	U	250	U	66	U	172	UU	687
LM-2*	10/26/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008		46	U	50	U	100	U	98	UU	553
LM-2*	07/26/17	25	U	NA		NA		NA		0.008		48	U	2500	U	110	U	1,329	UU	772
LM-2*	03/20/18	2.9		NA		NA		NA		0.109		95		500	U	100	U	395		656
LM-2*	06/27/18	5.0	U	NA		NA		NA		0.008	UU	260		500	U	220		730		574
LM-2*	09/20/18	0.5	U	NA		NA		NA		0.008	UU	54	U	19	U	120	U	97	UU	519
LM-2*	11/27/18	5.0	U	NA		NA		NA		0.008	UU	46	U	190	U	100	U	168	UU	635
LM-2*	03/19/19	0.0	U	NA		NA		NA		0.008	UU	46	U	19	U	100	U	83	UU	523
LM-2*	06/20/19	0.5	U	NA		NA		NA		0.008	UU	46	U	190	U	100	U	168	UU	635
LM-2*	09/17/19	0.2	U	NA		NA		NA		0.008	UU	46	U	190	U	100	U	168	UU	635
LM-2*	12/11/19	2.0	U	NA		NA		NA		0.008	UU	47	U	19	U	100	U	83	UU	522
LM-2*	03/11/20	2.0	U	NA		NA		NA		0.008	UU	150		19	U	100	U	210		509
LM-2*	06/23/20	2.0	U	NA		NA		NA		0.009	UU	50	U	140	J	110	U	220		657
LM-2*	09/21/20	4.0	U	NA		NA		NA		0.009	UU	50	U	190	U	110	U	175	UU	628
LM-2*	11/03/20	2.0	U	NA		NA		NA		0.008	UU	46	U	19	J	100	U	92		542
MW-101*	10/22/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	UU	250	U	50	U	500	U	400	UU	512
MW-101*	12/10/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	UU	245	U	50	U	490	U	393	UU	512
MW-101*	02/24/09	0.5	U	NA		NA		NA		0.008	UU	160		83	U	72	U	279		563
MW-101*	04/22/09	0.5	U	NA		NA		NA		0.008	UU	160		50	U	79	U	225		522
MW-101*	06/25/09	0.5	U	NA		NA		NA		0.007	UU	36		50	U	69	U	96		554
MW-101*	08/20/09	0.5	U	NA		NA		NA		0.012	UU	82		50	U	74	U	144		535
MW-101*	10/27/09	0.5	U	NA		NA		NA		0.013	UU	310		50	U	74	U	372		513
MW-101*	01/19/10	NA		NA		NA		NA		NA		28	U	50	U	66	U	72	UU	575
MW-101*	04/21/10	NA		NA		NA		NA		NA		75		75	U	78	U	189		587
MW-101*	07/21/10	NA		NA		NA		NA		NA		98		50	U	74	U	160		531
MW-101* (Duplicate)	07/21/10	NA		NA		NA		NA		NA		100		50	U	73	U	162		531
MW-101*	10/27/10	0.5	U	NA		NA		NA		0.012	UU	130		120		67	U	284		594
MW-101*	03/23/11	NA		NA		NA		NA		NA		34		50	U	67	U	93		556
MW-101*	06/15/11	NA		NA		NA		NA		NA		70		50	U	67	U	129		539
MW-101* (Duplicate)	06/15/11	NA		NA		NA		NA		NA		68		50	U	70	U	163		531
MW-101*	09/27/11	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574
MW-101*	12/14/11	0.2	U	NA		NA		NA		0.007	UU	32	U	50	U	75	U	79	UU	568
MW-101*	03/28/12	NA		NA		NA		NA		NA		29	U	50	U	67	U	73	UU	574

Table 3-4
Summary of Groundwater Analytical Data
Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)									
		B	T	E	X															
		CUL=16	--	--	--							CUL=0.05	--	--	--	see note 6				
MW-101*	06/29/12	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574						
MW-101*	09/27/12	NA	NA	NA	NA	30	U	50	U	70	U	75	UU	571						
MW-101* (Duplicate)	09/27/12	NA	NA	NA	NA	30	U	50	U	71	U	76	UU	571						
MW-101*	12/18/12	0.2	U	NA	NA	0.008	UU	29	U	50	U	68	U	74	UU	573				
MW-101*	03/26/13	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574						
MW-101*	06/25/13	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574						
MW-101*	09/25/13	NA	NA	NA	NA	29	U	50	U	68	U	74	UU	573						
MW-101*	12/20/13	0.2	U	NA	NA	0.008	UU	29	U	50	U	67	U	73	UU	574				
MW-101*	03/28/14	NA	NA	NA	NA	28	U	50	U	66	U	72	UU	575						
MW-101*	06/18/14	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574						
MW-101*	10/01/14	NA	NA	NA	NA	30	U	50	U	71	U	76	UU	571						
MW-101*	12/10/14	0.2	U	NA	NA	0.008	UU	29	U	50	U	67	U	73	UU	574				
MW-101*	03/25/15	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574						
MW-101*	06/25/15	NA	NA	NA	NA	28	U	50	U	66	U	72	UU	575						
MW-101*	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	UU	45	U	76	U	100	U	149	UU	619
MW-101*	07/25/17	0.5	U	NA	NA	NA	U	0.008	UU	46	U	50	U	100	U	98	UU	553		
MW-101* (Duplicate)	07/25/17	0.5	U	NA	NA	NA	U	0.008	UU	46	U	50	U	100	U	98	UU	553		
MW-101*	03/22/18	0.5	U	NA	NA	NA	U	0.008	UU	47	U	50	U	440	U	489	UU	510		
MW-101*	06/28/18	0.5	U	NA	NA	NA	U	0.008	UU	45	U	50	U	100	U	98	UU	553		
MW-101*	09/18/18	0.5	U	NA	NA	NA	U	0.008	UU	50	U	140	U	110	U	220	UU	657		
MW-101* (Duplicate)	09/18/18	0.5	U	NA	NA	NA	U	0.008	UU	47	U	140	U	100	U	214	UU	663		
MW-101*	11/28/18	0.5	U	NA	NA	NA	U	0.008	UU	45	U	900	U	100	U	973	UU	766		
MW-101*	02/07/19	0.0	U	NA	NA	NA	U	0.008	UU	46	U	19	U	100	U	83	UU	523		
MW-101*	03/20/19	0.0	U	NA	NA	NA	U	0.008	UU	48	U	19	U	110	U	89	UU	521		
MW-101*	06/18/19	0.5	U	NA	NA	NA	U	0.008	UU	120	J	27	J	110	U	202	UU	526		
MW-101*	09/18/19	0.2	U	NA	NA	NA	U	0.008	UU	48	U	650	U	110	U	729	UU	751		
MW-101*	12/12/19	0.2	U	NA	NA	NA	U	0.008	UU	45	U	470	U	100	U	543	UU	741		
MW-101* (Duplicate)	12/12/19	0.2	U	NA	NA	NA	U	0.008	UU	45	U	510	U	100	U	583	UU	744		
MW-101*	03/10/20	0.2	U	NA	NA	NA	U	0.008	UU	46	U	420	U	100	U	493	UU	735		
MW-101* (Duplicate)	03/10/20	0.2	U	NA	NA	NA	U	0.008	UU	47	U	410	U	100	U	484	UU	733		
MW-101*	06/24/20	0.2	U	NA	NA	NA	U	0.009	UU	47	U	1200	U	100	U	1,274	UU	773		
MW-101*	09/22/20	0.2	U	NA	NA	NA	U	0.008	UU	48	U	1800	U	110	U	1,879	UU	780		
MW-101* (Duplicate)	09/22/20	0.2	U	NA	NA	NA	U	0.008	UU	47	U	1700	U	110	U	1,779	UU	779		
MW-101*	11/06/20	0.20	U	NA	NA	NA	U	0.009	UU	75	J	1,600	U	110	U	1,730	UU	765		
MW-104*	10/22/08	3.89	U	0.554	U	11.8	U	1.00	U	0.008	U	253	U	728	U	505	U	1,107	UU	664
MW-104*	12/10/08	3.41	U	0.50	U	23.5	U	1.15	U	0.007	U	245	U	859	U	490	U	1,227	UU	678
MW-104*	02/24/09	1.4	U	NA	NA	NA	U	0.007	U	130	U	460	U	68	U	624	UU	691		
MW-104*	04/23/09	5	U	NA	NA	NA	U	0.008	U	180	U	1,700	U	70	U	1,915	UU	750		
MW-104* (Duplicate)	04/23/09	5	U	NA	NA	NA	U	0.008	U	210	U	1,800	U	72	U	2,046	UU	746		
MW-104*	06/24/09	2.9	U	NA	NA	NA	U	0.007	U	140	U	740	U	72	U	916	UU	717		
MW-104*	08/19/09	2	U	NA	NA	NA	U	0.012	U	120	U	310	U	68	U	464	UU	667		
MW-104*	10/27/09	2	U	NA	NA	NA	U	0.013	U	130	U	510	U	73	U	677	UU	697		
MW-104*	01/19/10	NA	U	NA	NA	NA	U	NA	U	270	U	2,800	U	69	U	3,105	UU	756		
MW-104*	04/21/10	NA	U	NA	NA	NA	U	NA	U	100	U	400	U	83	U	542	UU	692		
MW-104* (Duplicate)	04/21/10	NA	U	NA	NA	NA	U	NA	U	100	U	510	U	67	U	644	UU	711		
MW-104*	07/20/10	NA	U	NA	NA	NA	U	NA	U	200	U	450	U	72	U	686	UU	663		
MW-104*	10/27/10	1.7	U	NA	NA	NA	U	0.047	U	81	U	220	U	67	U	335	UU	664		
MW-104*	03/23/11	NA	U	NA	NA	NA	U	NA	U	290	U	890	U	68	U	1,214	UU	690		
MW-104*	06/15/11	NA	U	NA	NA	NA	U	NA	U	340	U	1,900	U	67	U	2,274	UU	728		
MW-104* (Duplicate)	06/15/11	NA	U	NA	NA	NA	U	NA	U	350	U	1,900	U	67	U	2,317	UU	722		
MW-104*	09/27/11	NA	U	NA	NA	NA	U	NA	U	29	U	50	U	67	U	73	UU	574		
MW-104*	12/13/11	3.0	U	NA	NA	NA	U	0.072	U	38	U	700	U	66	U	771	UU	758		
MW-104*	03/29/12	NA	U	NA	NA	NA	U	NA	U	440	U	280	U	220	U	940	UU	563		
MW-104*	06/28/12	NA	U	NA	NA	NA	U	NA	U	29	U	83	U	67	U	131	UU	656		
MW-104*	09/26/12	NA	U	NA	NA	NA	U	NA	U	33	U	170	U	66	U	236	UU	685		
MW-104*	12/18/12	0.2	U	NA	NA	NA	U	0.008	U	29	U	50	U	67	U	73	UU	574		
MW-104*	03/27/13	NA	U	NA	NA	NA	U	NA	U	52	U	310	U	120	U	396	UU	708		
MW-104*	06/26/13	NA	U	NA	NA	NA	U	NA	U	29	U	78	U	68	U	127	UU	650		
MW-104*	09/24/13	NA	U	NA	NA	NA	U	NA	U	30	U	190	U	70	U	240	UU	711		
MW-104* (Duplicate)	09/24/13	NA	U	NA	NA	NA	U	NA	U	44	U	170	U	70	U	249	UU	672		
MW-104*	12/17/13	0.4	U	NA	NA	NA	U	0.008	U	29	U	120	U	68	U	169	UU	682		

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)
		B	T	E	X											
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6		
MW-104*	03/26/14	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-104*	06/17/14	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-104* (Duplicate)	06/17/14	NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-104*	09/30/14	NA	NA	NA	NA	NA	U	30	U	50	U	69	U	90	UU	559
MW-104*	12/09/14	1.0	U	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574
MW-104*	03/25/15	NA	U	NA	NA	NA	U	30	U	59	U	69	U	109	UU	628
MW-104*	06/23/15	NA	U	NA	NA	NA	U	28	U	64	U	66	U	111	UU	638
MW-104*	10/24/16	0.5	U	0.5	U	11.0	U	46	U	350	U	100	U	423	UU	725
MW-104*	07/26/17	0.5	U	NA	U	NA	U	45	U	120	U	100	U	193	UU	653
MW-104*	03/20/18	0.2	U	NA	U	NA	U	46	U	91	U	100	U	164	UU	631
MW-104*	06/27/18	0.5	U	NA	U	NA	U	46	U	50	U	100	U	98	UU	553
MW-104*	09/17/18	0.5	U	NA	U	NA	U	46	U	19	U	100	U	83	UU	523
MW-104*	11/27/18	0.5	U	NA	U	NA	U	47	U	36	U	100	U	110	UU	570
MW-104*	03/19/19	0.0	U	NA	U	NA	U	46	U	400	U	100	U	473	UU	732
MW-104*	06/20/19	0.5	U	NA	U	NA	U	47	U	64	J	100	U	138	UU	606
MW-104*	09/17/19	0.2	U	NA	U	NA	U	45	U	59	J	100	U	132	UU	601
MW-104*	12/12/19	0.2	U	NA	U	NA	U	280	U	52	J	130	J	462	UU	522
MW-104*	03/11/20	0.2	U	NA	U	NA	U	47	U	27	J	110	U	106	UU	553
MW-104* (Duplicate)	03/11/20	0.2	U	NA	U	NA	U	46	U	26	J	100	U	99	UU	555
MW-104*	07/01/20	0.2	U	NA	U	NA	U	50	J	190	J	130	J	370	UU	619
MW-104*	09/21/20	0.2	U	NA	U	NA	U	0.009	UU	110	J	100	U	208	UU	547
MW-104*	11/04/20	0.20	U	NA	U	NA	U	0.009	UJ	680	J	19	UB	640	UU	499
MW-108*	10/23/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	UU	512
MW-108*	12/11/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	UU	512
MW-108*	02/26/09	0.5	U	NA	U	NA	U	0.007	U	31	U	71	U	76	UU	570
MW-108*	04/23/09	2.5	UW	NA	U	NA	U	0.007	U	39	UW	66	U	322	UU	705
MW-108*	06/25/09	0.5	U	NA	U	NA	U	0.007	U	28	U	66	U	72	UU	575
MW-108*	08/20/09	0.5	U	NA	U	NA	U	0.012	U	36	U	68	U	95	UU	555
MW-108*	10/30/09	0.5	U	NA	U	NA	U	0.014	U	40	U	71	U	101	UU	551
MW-108*	01/20/10	NA	U	NA	U	NA	U	NA	U	28	U	66	U	72	UU	575
MW-108*	04/21/10	NA	U	NA	U	NA	U	NA	U	75	U	67	U	134	UU	538
MW-108*	07/22/10	NA	U	NA	U	NA	U	NA	U	76	U	76	U	139	UU	536
MW-108*	10/29/10	0.5	U	NA	U	NA	U	0.0119225	U	29	U	67	U	73	UU	574
MW-108*	03/23/11	NA	U	NA	U	NA	U	NA	U	33	U	67	U	92	UU	557
MW-108*	06/16/11	NA	U	NA	U	NA	U	NA	U	140	U	68	U	199	UU	525
MW-108*	09/28/11	NA	U	NA	U	NA	U	NA	U	30	U	69	U	75	UU	572
MW-108*	12/16/11	0.2	U	NA	U	NA	U	0.00717	U	29	U	67	U	73	UU	574
MW-108*	03/29/12	NA	U	NA	U	NA	U	NA	U	110	U	150	U	285	UU	517
MW-108*	06/29/12	NA	U	NA	U	NA	U	NA	U	30	U	71	U	76	UU	571
MW-108*	09/27/12	NA	U	NA	U	NA	U	NA	U	29	U	67	U	73	UU	574
MW-108*	12/18/12	0.2	U	NA	U	NA	U	0.008	U	31	U	72	U	77	UU	570
MW-108*	03/27/13	NA	U	NA	U	NA	U	NA	U	31	U	72	U	77	UU	570
MW-108*	06/27/13	NA	U	NA	U	NA	U	NA	U	29	U	67	U	73	UU	574
MW-108*	09/26/13	NA	U	NA	U	NA	U	NA	U	28	U	66	U	72	UU	575
MW-108*	12/19/13	0.2	U	NA	U	NA	U	0.008	U	32	U	74	U	78	UU	568
MW-108*	03/27/14	NA	U	NA	U	NA	U	NA	U	30	U	69	U	75	UU	572
MW-108*	06/17/14	NA	U	NA	U	NA	U	NA	U	29	U	67	U	73	UU	574
MW-108*	10/02/14	NA	U	NA	U	NA	U	NA	U	29	U	68	U	74	UU	573
MW-108*	12/09/14	0.2	U	NA	U	NA	U	0.008	U	29	U	67	U	73	UU	574
MW-108*	03/26/15	NA	U	NA	U	NA	U	NA	U	29	U	68	U	299	UU	729
MW-108*	06/24/15	NA	U	NA	U	NA	U	NA	U	28	U	66	U	172	UU	687
MW-109*	10/23/08	0.50	U	0.50	U	0.50	U	1.00	U	253	U	505	U	404	UU	512
MW-109*	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	248	U	495	U	397	UU	512
MW-109*	02/26/09	0.5	U	NA	U	NA	U	0.008	U	32	U	75	U	79	UU	568
MW-109*	04/23/09	0.5	U	NA	U	NA	U	0.007	U	29	U	67	U	73	UU	574
MW-109*	06/25/09	0.5	U	NA	U	NA	U	0.007	U	29	U	67	U	73	UU	574
MW-109*	08/20/09	0.5	U	NA	U	NA	U	0.012	U	29	U	67	U	73	UU	574
MW-109*	10/30/09	0.5	U	NA	U	NA	U	0.012	U	29	U	67	U	73	UU	574
MW-109*	01/20/10	NA	U	NA	U	NA	U	NA	U	29	U	67	U	73	UU	574
MW-109*	04/21/10	NA	U	NA	U	NA	U	NA	U	55	U	67	U	114	UU	545
MW-109*	07/22/10	NA	U	NA	U	NA	U	NA	U	31	U	72	U	77	UU	570

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B	T	E	X	CUL=0.05		--		--		--		see note 6				
		CUL=16	--	--	--													
MW-109*	10/29/10	0.5	U	NA	NA	NA	NA	0.012	U	29	U	50	U	67	U	73	UU	574
MW-109*	03/23/11	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-109*	06/16/11	NA		NA	NA	NA	NA	NA	U	96	U	50	U	100	U	221	UU	522
MW-109*	09/28/11	NA		NA	NA	NA	NA	NA	U	32	U	50	U	75	U	79	UU	568
MW-109*	12/16/11	0.2	U	NA	NA	NA	NA	0.0072	U	29	U	50	U	66	U	87	UU	560
MW-109*	03/29/12	NA		NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-109*	06/29/12	NA		NA	NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572
MW-109*	09/27/12	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-109*	12/18/12	0.2	U	NA	NA	NA	NA	0.008	U	33	U	50	U	77	U	80	UU	566
MW-109*	03/27/13	NA		NA	NA	NA	NA	NA	U	31	U	50	U	72	U	77	UU	570
MW-109*	06/27/13	NA		NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-109* (Duplicate)	06/27/13	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-109*	09/26/13	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-109*	12/19/13	0.2	U	NA	NA	NA	NA	0.008	U	31	U	50	U	73	U	77	UU	569
MW-109*	03/27/14	NA		NA	NA	NA	NA	NA	U	54	U	67	U	50	U	113	UU	563
MW-109*	06/17/14	NA		NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-109*	10/02/14	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-109*	12/09/14	0.2	U	NA	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574
MW-109*	03/26/15	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-109*	06/24/15	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-126	06/29/12	NA		NA	NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571
MW-126 (Duplicate)	06/29/12	NA		NA	NA	NA	NA	NA	U	31	U	50	U	71	U	76	UU	570
MW-126	12/18/12	0.2	U	NA	NA	NA	NA	0.008	U	170	U	50	U	68	U	229	UU	521
MW-126	06/25/13	NA		NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-126	12/17/13	0.2	U	NA	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574
MW-126 (Duplicate)	12/17/13	0.2	U	NA	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574
MW-126	06/18/14	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-126	12/10/14	0.2	U	NA	NA	NA	NA	0.008	U	210	U	50	U	67	U	269	UU	518
MW-126	06/23/15	NA		NA	NA	NA	NA	NA	U	28	U	50	U	65	U	72	UU	575
MW-126	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	45	U	50	U	100	UU	553
MW-126	07/25/17	0.5	U	NA	NA	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553
MW-126	03/22/18	0.5	U	NA	NA	NA	NA	0.008	U	47	U	50	U	110	U	104	UU	550
MW-126	06/29/18	0.5	U	NA	NA	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553
MW-126	09/18/18	0.5	U	NA	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-126	11/30/18	0.5	U	NA	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-126 (Duplicate)	11/30/18	0.5	U	NA	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523
MW-126	03/21/19	0.5	U	NA	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-126	06/19/19	0.5	U	NA	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-126	09/19/19	0.2	U	NA	NA	NA	NA	0.008	U	47	U	19	U	110	U	88	UU	521
MW-126	12/11/19	0.2	U	NA	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-126	03/09/20	0.2	U	NA	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-126	06/24/20	0.2	U	NA	NA	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-126	09/23/20	0.2	U	NA	NA	NA	NA	0.009	UU	49	U	19	U	110	U	89	UU	521
MW-126	11/06/20	0.20	U	NA	NA	NA	NA	0.009	UU	49	U	19	U	110	U	89	UU	521
MW-129R*	10/24/08	0.50	U	0.50	U	0.50	U	1.12	U	0.007	U	250	U	68.1	U	500	UU	531
MW-129R*	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	0.008	U	245	U	50	U	490	UU	512
MW-129R*	02/27/09	0.5	U	NA	NA	NA	NA	0.007	U	1,900	U	50	U	730	U	2,655	UU	502
MW-129R*	04/27/09	0.5	U	NA	NA	NA	NA	0.007	U	1,400	U	50	U	250	U	1,675	UU	503
MW-129R*	06/26/09	0.5	U	NA	NA	NA	NA	0.007	U	1,700	U	50	U	1,000	U	2,725	UU	502
MW-129R*	08/21/09	0.5	U	NA	NA	NA	NA	0.012	U	3,400	U	50	U	1,000	U	4,425	UU	501
MW-129R*	10/28/09	0.5	U	NA	NA	NA	NA	0.013	U	1,900	U	50	U	240	U	2,165	UU	502
MW-129R*	01/21/10	NA		NA	NA	NA	NA	NA	U	1,800	U	50	U	650	U	2,475	UU	502
MW-129R*	04/22/10	NA		NA	NA	NA	NA	NA	U	1,600	U	50	U	390	U	2,015	UU	502
MW-129R*	07/22/10	NA		NA	NA	NA	NA	NA	U	1,800	U	50	U	400	U	2,225	UU	502
MW-129R*	11/01/10	0.5	U	NA	NA	NA	NA	0.012	U	1,900	U	50	U	700	U	2,625	UU	502
MW-129R*	03/23/11	NA		NA	NA	NA	NA	NA	U	1,700	U	50	UU	550	U	2,300	UU	504
MW-129R* (Duplicate)	03/23/11	NA		NA	NA	NA	NA	NA	U	1,700	U	50	U	650	U	2,375	UU	502
MW-129R*	06/17/11	NA		NA	NA	NA	NA	NA	U	1,600	U	50	U	310	U	1,935	UU	502
MW-129R*	09/28/11	NA		NA	NA	NA	NA	NA	U	2,700	U	50	U	230	U	2,955	UU	502
MW-129R*	12/19/11	0.2	U	NA	NA	NA	NA	0.007	U	45	U	50	U	67	U	104	UU	550
MW-129R*	03/29/12	NA		NA	NA	NA	NA	NA	U	1,700	U	55	U	300	U	2,055	UU	505

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)	
		B	T	E	X								
		CUL=16	--	--	--	CUL=0.05	--						
MW-129R* (Duplicate)	03/29/12	NA	NA	NA	NA	NA	U	87	56	67	U	177	568
MW-129R*	07/02/12	NA	NA	NA	NA	NA	U	44	50	67	U	103	550
MW-129R*	09/27/12	NA	NA	NA	NA	NA	U	330	50	75	U	393	512
MW-129R*	12/18/12	0.2	U	NA	NA	0.009	U	32	50	68	U	91	557
MW-129R*	03/27/13	NA		NA	NA	NA	U	29	50	67	U	88	560
MW-129R*	06/26/13	NA		NA	NA	NA	U	30	50	68	U	114	598
MW-129R*	09/24/13	NA		NA	NA	NA	U	30	50	69	U	75	572
MW-129R*	12/18/13	0.2	U	NA	NA	0.008	U	33	50	71	U	94	556
MW-129R*	03/26/14	NA		NA	NA	NA	U	46	56	67	U	136	592
MW-129R*	06/18/14	NA		NA	NA	NA	U	80	50	66	U	138	536
MW-129R*	09/30/14	NA		NA	NA	NA	U	310	50	68	U	369	513
MW-129R*	12/09/14	0.2	U	NA	NA	0.008	U	36	50	66	U	94	555
MW-129R*	03/26/15	NA		NA	NA	NA	U	100	52	67	U	186	559
MW-129R*	06/23/15	NA		NA	NA	NA	U	51	50	66	U	109	547
MW-129R*	07/26/17	0.5	U	NA	NA	0.008	U	46	93	100	U	166	633
MW-129R*	03/20/18	0.2	U	NA	NA	0.008	U	1,900	50	110	U	1,980	502
MW-129R*	06/27/18	0.5	U	NA	NA	0.008	U	47	50	100	U	99	553
MW-129R*	09/17/18	0.5	U	NA	NA	0.008	U	81	38	110	U	174	545
MW-129R*	11/28/18	0.5	U	NA	NA	0.008	U	550	32	130		712	509
MW-129R*	02/07/19	0.0	U	NA	NA	0.008	U	46	33	100	U	129	553
MW-129R*	03/19/19	0.0	U	NA	NA	0.008	U	46	34	100	U	107	568
MW-129R*	06/20/19	0.5	U	NA	NA	0.008	U	240	19	100	U	300	506
MW-129R*	09/17/19	0.2	U	NA	NA	0.008	U	46	56	100	U	129	597
MW-129R*	12/11/19	0.2	U	NA	NA	0.008	U	62	37	110	U	154	550
MW-129R*	03/11/20	0.2	U	NA	NA	0.008	U	1200	34	460		1,694	504
MW-129R* (Duplicate)	03/11/20	0.2	U	NA	NA	0.008	U	560	47	100	U	657	514
MW-129R*	06/24/20	0.2	U	NA	NA	0.008	UU	51	53	100	U	154	574
MW-129R* (Duplicate)	06/24/20	0.2	U	NA	NA	0.008	UU	59	45	100	U	154	562
MW-129R*	09/21/20	0.2	U	NA	NA	0.008	UU	61	36	100	U	147	551
MW-129R*	11/04/20	0.20	U	NA	NA	0.009	UU	88	19	110	J	208	494
MW-134X	06/28/12	NA		NA	NA	NA	U	28	50	66	U	72	575
MW-134X	12/14/12	0.2	U	NA	NA	0.008	U	30	50	210		265	518
MW-134X	06/27/13	NA		NA	NA	NA	U	30	50	71		126	540
MW-134X	12/19/13	0.2	U	NA	NA	0.008	U	29	50	68	U	74	573
MW-134X	06/17/14	NA		NA	NA	NA	U	28	50	66	U	72	575
MW-134X	12/10/14	0.2	U	NA	NA	0.008	U	28	50	66	U	72	575
MW-134X	06/24/15	NA		NA	NA	NA	U	29	50	68	U	74	573
MW-135*	10/27/08	0.50	U	0.50	U	0.50	U	1.00	50	485	U	389	512
MW-135*	12/15/08	0.5	U	0.5	U	0.5	U	1.00	50	476	U	382	513
MW-135*	02/27/09	0.5	U	NA	NA	NA		0.079	800	870		1,695	503
MW-135*	04/24/09	0.5	U	NA	NA	NA		0.007	310	67	U	369	513
MW-135*	06/29/09	0.5	U	NA	NA	NA		0.007	1,600	50	U	2,625	502
MW-135*	08/24/09	0.5	U	NA	NA	NA		0.012	1,900	50	U	2,565	502
MW-135*	10/29/09	0.5	U	NA	NA	NA		0.012	2,000	50	U	2,545	502
MW-135*	01/21/10	NA		NA	NA	NA	U	460	50	360		845	506
MW-135*	04/23/10	NA		NA	NA	NA	U	610	50	400		1,035	505
MW-135*	07/22/10	NA		NA	NA	NA	U	1,400	50	200		1,625	503
MW-135*	11/01/10	0.5	U	NA	NA	NA	U	1,800	50	590		2,415	502
MW-135*	03/24/11	NA		NA	NA	NA	U	500	50	170		695	507
MW-135*	06/17/11	NA		NA	NA	NA	U	550	50	210		785	506
MW-135*	03/28/14	NA		NA	NA	NA	U	28	50	66	U	72	575
MW-135*	09/28/11	NA		NA	NA	NA	U	29	50	69	U	74	573
MW-135*	12/16/11	0.2	U	NA	NA	0.007	U	79	50	110		214	523
MW-135*	03/28/12	NA		NA	NA	NA	U	29	50	67	U	73	574
MW-135*	07/02/12	NA		NA	NA	NA	U	29	50	68	U	74	573
MW-135*	09/28/12	NA		NA	NA	NA	U	30	50	69	U	75	572
MW-135*	12/19/12	0.2	U	NA	NA	0.008	U	28	50	66	U	72	575
MW-135*	03/28/13	NA		NA	NA	NA	U	30	50	71	U	76	571
MW-135*	06/28/13	NA		NA	NA	NA	U	30	50	70	U	75	571
MW-135*	09/26/13	NA		NA	NA	NA	U	30	50	70	U	75	571
MW-135*	12/20/13	0.2	U	NA	NA	0.008	U	29	50	68	U	74	573

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)
		B	T	E	X	CUL=0.05		--		--		--		see note 6		
		CUL=16	--	--	--											
MW-135*	03/28/14	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-135*	06/20/14	NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-135*	10/02/14	NA	NA	NA	NA	NA	U	35	U	50	U	82	U	84	UU	563
MW-135*	12/12/14	0.2	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-135*	03/26/15	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-135*	06/26/15	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-136*	10/27/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	485	U	389	UU	512
MW-136*	12/15/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	485	U	425		528
MW-136*	02/27/09	2.5		NA	NA	NA	U	0.007	U	2,400		120		3,010		508
MW-136*	04/24/09	1.9		NA	NA	NA	U	0.009	U	1,400		52		1,622		506
MW-136*	06/29/09	0.8		NA	NA	NA	U	0.008	U	2,500	U	50	1,200	3,725		501
MW-136*	08/24/09	0.6		NA	NA	NA	U	0.012	U	1,600	U	50	560	2,185		502
MW-136*	10/29/09	0.5	U	NA	NA	NA	U	0.013	U	2,100	U	50	460	2,585		502
MW-136*	01/21/10	NA		NA	NA	NA	U	980	U	50	U	540		1,545		503
MW-136*	04/23/10	NA		NA	NA	NA	U	1,100	U	50	U	410		1,535		503
MW-136*	07/22/10	NA		NA	NA	NA	U	1,300	U	50	U	250		1,575		503
MW-136*	11/01/10	0.5	U	NA	NA	NA	U	0.012	U	1,200	U	50	460	1,685		503
MW-136*	03/24/11	NA		NA	NA	NA	U	540	U	50	U	78		643		507
MW-136*	06/17/11	NA		NA	NA	NA	U	510	U	50	U	110		645		507
MW-136*	09/28/11	NA		NA	NA	NA	U	40	U	50	U	67	U	99		553
MW-136*	12/16/11	0.2	U	NA	NA	NA	U	0.007	U	40	U	71	U	101		551
MW-136*	03/29/12	NA		NA	NA	NA	U	570	U	50	U	240		835		506
MW-136*	07/03/12	NA		NA	NA	NA	U	31	U	50	U	72	U	77	UU	570
MW-136*	09/28/12	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-136*	12/19/12	0.2	U	NA	NA	NA	U	0.008	U	30	U	69	U	75	UU	572
MW-136*	03/28/13	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-136*	06/28/13	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-136*	09/26/13	NA		NA	NA	NA	U	42	U	50	U	68	U	101		551
MW-136* (Duplicate)	09/26/13	NA		NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-136*	12/20/13	0.2	U	NA	NA	NA	U	0.008	U	32	U	74	U	78	UU	568
MW-136*	03/28/14	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-136*	06/20/14	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-136* (Duplicate)	06/20/14	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-136*	10/02/14	NA		NA	NA	NA	U	32	U	50	U	75	U	79	UU	568
MW-136* (Duplicate)	10/02/14	NA		NA	NA	NA	U	33	U	51	U	96		138		537
MW-136*	12/12/14	0.2	U	NA	NA	NA	U	0.011	U	30	U	70	U	75	UU	571
MW-136* (Duplicate)	12/12/14	0.2	U	NA	NA	NA	U	0.008	U	29	U	68	U	88		560
MW-136*	03/26/15	NA		NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-136*	06/26/15	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-139R*	10/22/08	0.50	U	0.50	U	0.724	U	1.00	U	240	U	57	JZ	481	U	527
MW-139R*	12/10/08	0.50	U	0.50	U	0.50	U	1.00	U	248	U	50	U	495	U	512
MW-139R*	02/25/09	0.5	U	NA	NA	NA	U	0.008	U	42	U	73	U	104		550
MW-139R*	04/23/09	0.5	U	NA	NA	NA	U	0.008	U	31	U	50	U	77	UU	570
MW-139R*	06/25/09	0.5	U	NA	NA	NA	U	0.007	U	63	U	69	U	123		541
MW-139R*	08/20/09	0.5	U	NA	NA	NA	U	0.012	U	87	U	66	U	145		535
MW-139R*	10/28/09	0.5	U	NA	NA	NA	U	0.012	U	78	U	70	U	138		536
MW-139R*	01/20/10	NA		NA	NA	NA	U	31	U	50	U	70	U	91		557
MW-139R* (Duplicate)	01/20/10	NA		NA	NA	NA	U	36	U	50	U	70	U	96		554
MW-139R*	04/21/10	NA		NA	NA	NA	U	34	U	50	U	78	U	81	UU	565
MW-139R*	07/21/10	NA		NA	NA	NA	U	66	U	50	U	80	U	131		539
MW-139R*	10/28/10	0.5	U	NA	NA	NA	U	0.012	U	64	U	66	U	122		542
MW-139R*	03/23/11	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-139R*	06/16/11	NA		NA	NA	NA	U	56	U	50	U	870		951		505
MW-139R*	09/27/11	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-139R*	12/15/11	0.2		NA	NA	NA	U	0.007	U	29	U	67	U	73	UU	574
MW-139R*	03/28/12	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-139R*	06/29/12	NA		NA	NA	NA	U	31	U	50	U	72	U	77	UU	570
MW-139R*	09/27/12	NA		NA	NA	NA	U	31	U	50	U	73	U	77	UU	569
MW-139R*	12/18/12	0.2	U	NA	NA	NA	U	0.008	U	29	U	68	U	74	UU	573
MW-139R* (Duplicate)	12/18/12	0.2	U	NA	NA	NA	U	0.008	U	29	U	68	U	74	UU	573
MW-139R*	03/27/13	NA		NA	NA	NA	U	31	U	50	U	72	U	77	UU	570

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)
		B	T	E	X											
		CUL=16	--	--	--	CUL=0.05	--	--	--	--	see note 6					
MW-139R*	06/27/13	NA	NA	NA	NA	NA	U	31	U	50	U	72	U	77	UU	570
MW-139R*	09/26/13	NA	NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571
MW-139R*	12/18/13	0.2	U	NA	NA	0.008	U	30	U	50	U	71	U	76	UU	571
MW-139R*	03/28/14	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-139R*	06/19/14	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-139R*	10/01/14	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-139R*	12/10/14	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-139R*	03/25/15	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-139R*	06/25/15	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-139R*	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	50	U	100	U	98	UU	553
MW-139R* (Duplicate)	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	50	U	100	U	98	UU	553
MW-139R*	07/27/17	0.5	U	NA	NA	0.008	U	47	U	50	U	100	U	99	UU	553
MW-139R*	03/22/18	0.5	U	NA	NA	0.008	U	47	U	50	U	100	U	99	UU	553
MW-139R*	06/28/18	0.5	U	NA	NA	0.008	U	47	U	50	U	100	U	99	UU	553
MW-139R*	09/19/18	0.5	U	NA	NA	0.008	U	47	U	19	U	110	U	88	UU	521
MW-139R*	11/28/18	0.5	U	NA	NA	0.010	U	47	U	19	U	100	U	83	UU	522
MW-139R*	03/20/19	0.0	U	NA	NA	0.010	U	47	U	19	U	100	U	83	UU	522
MW-139R*	06/18/19	0.5	U	NA	NA	0.008	U	75	J	19	U	110	U	140	UU	513
MW-139R*	09/18/19	0.2	U	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522
MW-139R*	12/09/19	0.2	U	NA	NA	0.008	U	50	U	19	U	110	U	90	UU	521
MW-139R*	03/10/20	0.2	U	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-139R*	06/24/20	0.2	U	NA	NA	0.009	UU	48	U	19	U	110	U	89	UU	521
MW-139R*	09/21/20	0.2	U	NA	NA	0.008	UU	360	U	19	U	500	U	870	UU	502
MW-139R*	11/03/20	0.20	U	NA	NA	0.009	UU	50	U	19	U	110	U	90	UU	521
MW-139R* (Duplicate)	11/03/20	0.20	U	NA	NA	0.009	UU	49	U	19	U	110	U	89	UU	521
MW-13U	06/28/12	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-13U	12/14/12	0.2	U	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574
MW-13U	06/27/13	NA	U	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572
MW-13U	12/20/13	0.2	U	NA	NA	0.008	U	31	U	50	U	71	U	76	UU	570
MW-13U (Duplicate)	12/20/13	0.2	U	NA	NA	0.008	U	30	U	50	U	70	U	75	UU	571
MW-13U	06/17/14	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-13U	12/10/14	0.2	U	NA	NA	0.008	U	30	U	50	U	69	U	75	UU	572
MW-13U	06/24/15	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-143	10/22/08	0.50	U	0.50	U	0.50	U	1.00	U	250	U	500	U	400	UU	512
MW-143	12/16/08	0.50	U	0.50	U	0.50	U	1.00	U	240	U	481	U	386	UU	512
MW-143	02/25/09	0.5	U	NA	NA	0.007	U	1,400	U	50	U	580	U	2,005	UU	502
MW-143	04/21/09	0.5	U	NA	NA	0.007	U	710	U	50	U	69	U	770	UU	506
MW-143	06/24/09	0.5	U	NA	NA	0.007	U	940	U	50	U	210	U	1,175	UU	504
MW-143	08/19/09	0.5	U	NA	NA	0.013	U	360	U	50	U	71	U	421	UU	511
MW-143	10/27/09	0.5	U	NA	NA	0.013	U	200	U	50	U	66	U	258	UU	519
MW-143	01/21/10	NA	U	NA	NA	NA	U	620	U	50	U	330	U	975	UU	505
MW-143	04/20/10	NA	U	NA	NA	NA	U	1,200	U	50	U	340	U	1,565	UU	503
MW-143 (Duplicate)	04/20/10	NA	U	NA	NA	NA	U	1,400	U	50	U	450	U	1,875	UU	503
MW-143	07/20/10	NA	U	NA	NA	NA	U	1,300	U	50	U	260	U	1,585	UU	503
MW-143	10/27/10	0.5	U	NA	NA	0.012	U	110	U	50	U	67	U	169	UU	529
MW-143	06/15/11	NA	U	NA	NA	NA	U	1,500	U	50	U	220	U	1,745	UU	503
MW-143	12/14/11	0.2	U	NA	NA	0.007	U	31	U	50	U	67	U	90	UU	559
MW-143	06/29/12	NA	U	NA	NA	NA	U	31	U	50	U	73	U	77	UU	569
MW-143	12/20/12	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-143	06/27/13	0.2	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-143	12/18/13	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-143 (Duplicate)	12/18/13	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-143	06/18/14	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-143	12/10/14	0.2	U	NA	NA	0.008	U	28	U	50	U	65	U	72	UU	575
MW-143	06/23/15	NA	U	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572
MW-143	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	50	U	100	U	99	UU	553
MW-143	07/25/17	0.5	U	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-143	03/22/18	0.5	U	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-143	06/29/18	0.5	U	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-143	09/18/18	0.5	U	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-143	11/30/18	0.5	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)					
		B	T	E	X												
		CUL=16	--	--	--	CUL=0.05	--	--	--	see note 6							
MW-143	03/21/19	0.5	U	NA	NA	NA	NA	45	U	19	U	100	U	82	UU	523	
MW-143	06/19/19	0.5	U	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523	
MW-143	09/19/19	0.2	U	NA	NA	NA	NA	49	U	19	U	110	U	89	UU	521	
MW-143	12/11/19	0.2	U	NA	NA	NA	NA	45	U	19	U	100	U	82	UU	523	
MW-143	03/09/20	0.2	U	NA	NA	NA	NA	47	U	19	U	100	U	83	UU	522	
MW-143	06/24/20	0.2	U	NA	NA	NA	NA	0.009	UU	47	U	100	U	98		551	
MW-143	09/23/20	1.0	U	NA	NA	NA	NA	0.009	UU	48	U	110	U	103		548	
MW-143	11/06/20	0.20	UJ	NA	NA	NA	NA	0.008	UU	46	UJ	19	U	100	UJ	83	UU
MW-147*	10/21/08	0.50	U	0.50	U	0.50	U	1.00	U	240	U	91.2		452		541	
MW-147*	12/09/08	0.50	U	0.562	U	1.38	U	3.49	U	243	U	604		485	U	968	653
MW-147*	02/23/09	0.5	U	NA	NA	NA	NA	0.007	U	1,100		760	380.00			2,240	573
MW-147* (Duplicate)	02/23/09	0.5	U	NA	NA	NA	NA	0.008	U	1,000		790		420		2,210	577
MW-147*	04/21/09	1.7	U	NA	NA	NA	NA	0.008	U	730		630		99		1,459	597
MW-147*	06/23/09	0.5	U	NA	NA	NA	NA	0.007	U	750		260		290		1,300	541
MW-147*	08/18/09	0.5	U	NA	NA	NA	NA	0.012	U	240		76		70	U	351	544
MW-147*	10/26/09	0.5	U	NA	NA	NA	NA	0.012	U	1,700		690		330		2,720	553
MW-147*	01/19/10	NA		NA	NA	NA	NA	NA	U	360		750		66	U	1,143	663
MW-147*	04/20/10	NA		NA	NA	NA	NA	NA	U	320		730		78		1,128	660
MW-147*	07/20/10	NA		NA	NA	NA	NA	NA	U	500		70		100		670	520
MW-147*	10/26/10	0.5	U	NA	NA	NA	NA	0.013	U	1,200		330		200		1,730	539
MW-147*	03/22/11	NA		NA	NA	NA	NA	NA	U	750		740		68	U	1,524	611
MW-147*	06/15/11	NA		NA	NA	NA	NA	NA	U	370		250		67	U	654	584
MW-147*	09/27/11	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU
MW-147*	12/13/11	0.2	U	NA	NA	NA	NA	0.007	U	28	U	50	U	66	U	72	UU
MW-147* (Duplicate)	12/13/11	0.2	U	NA	NA	NA	NA	0.007	U	28	U	50	U	66	U	72	UU
MW-147*	03/28/12	NA		NA	NA	NA	NA	NA	U	29	U	130		67	U	178	689
MW-147*	06/28/12	NA		NA	NA	NA	NA	NA	U	29	U	59		67	U	107	630
MW-147*	09/26/12	NA		NA	NA	NA	NA	NA	U	30	U	50	U	71	U	76	UU
MW-147*	12/14/12	0.2	U	NA	NA	NA	NA	0.008	U	28	U	50	U	66	U	72	UU
MW-147*	03/26/13	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-147*	06/25/13	NA		NA	NA	NA	NA	NA	U	30	U	50	U	71	U	76	UU
MW-147*	09/25/13	NA		NA	NA	NA	NA	NA	U	29	U	50	U	69	U	74	UU
MW-147*	12/17/13	0.2	U	NA	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU
MW-147*	03/28/14	NA		NA	NA	NA	NA	NA	U	31	U	50	U	72	U	77	UU
MW-147*	06/18/14	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU
MW-147*	09/30/14	NA		NA	NA	NA	NA	NA	U	30	U	50	U	71	U	76	UU
MW-147*	12/09/14	0.2	U	NA	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU
MW-147*	03/25/15	NA		NA	NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU
MW-147* (Duplicate)	03/25/15	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-147*	06/23/15	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-149R*	10/21/08	0.50	U	0.50	U	0.50	U	1.00	U	245	U	50	U	490	U	393	UU
MW-149R*	12/09/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	U	389	UU
MW-149R*	02/23/09	0.5	U	NA	NA	NA	NA	0.008	U	110		50	U	78	U	174	528
MW-149R*	04/21/09	0.5	U	NA	NA	NA	NA	0.008	U	100		50	U	76	U	163	531
MW-149R*	06/23/09	0.5	U	NA	NA	NA	NA	0.007	U	190		50	U	66	U	248	520
MW-149R*	08/18/09	0.5	U	NA	NA	NA	NA	0.012	U	160		50	U	66	U	218	522
MW-149R*	10/26/09	0.5	U	NA	NA	NA	NA	0.012	U	430		50	U	320		775	506
MW-149R*	01/19/10	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-149R*	04/20/10	NA		NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU
MW-149R* (Duplicate)	04/20/10	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-149R*	07/20/10	NA		NA	NA	NA	NA	NA	U	210		50	U	89		324	515
MW-149R*	10/26/10	0.5	U	NA	NA	NA	NA	0.012	U	410		50	U	210		645	507
MW-149R*	03/22/11	NA		NA	NA	NA	NA	NA	U	61		50	U	66	U	119	543
MW-149R*	06/17/11	NA		NA	NA	NA	NA	NA	U	82		50	U	66	U	140	536
MW-149R*	09/27/11	NA		NA	NA	NA	NA	NA	U	30	U	50	U	67	U	74	UU
MW-149R*	12/13/11	0.2	U	NA	NA	NA	NA	0.007	U	29	U	50	U	68	U	74	UU
MW-149R*	03/28/12	NA		NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU
MW-149R* (Duplicate)	03/28/12	NA		NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU
MW-149R*	06/28/12	NA		NA	NA	NA	NA	NA	U	250		50	U	66	U	308	516
MW-149R*	09/26/12	NA		NA	NA	NA	NA	NA	U	32	U	50	U	74	U	78	UU
MW-149R*	12/14/12	0.2	U	NA	NA	NA	NA	0.008	U	28	U	50	U	66	U	72	UU

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 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B		T		E		X										
		CUL=16		--		--		--		CUL=0.05		--		--			see note 6	
MW-149R*	03/26/13	NA		NA		NA		NA		32	U	50	U	74	UU	568		
MW-149R*	06/25/13	NA		NA		NA		NA		29	U	50	U	68	UU	573		
MW-149R*	09/24/13	NA		NA		NA		NA		29	U	50	U	68	UU	573		
MW-149R*	12/17/13	0.2	U	NA		NA		NA		30	U	50	U	71	UU	571		
MW-149R*	03/28/14	NA		NA		NA		NA		29	U	50	U	68	UU	573		
MW-149R*	06/18/14	NA		NA		NA		NA		28	U	50	U	66	UU	575		
MW-149R*	09/30/14	NA		NA		NA		NA		30	U	50	U	70	UU	571		
MW-149R*	12/09/14	0.2	U	NA		NA		NA		30	U	50	U	70	UU	571		
MW-149R*	03/25/15	NA		NA		NA		NA		29	U	50	U	68	UU	573		
MW-149R*	06/23/15	NA		NA		NA		NA		29	U	50	U	68	UU	573		
MW-150*	10/21/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	240	U	481	UJ	626	508	
MW-150*	12/09/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	248	U	495	U	397	UU	512
MW-150*	02/23/09	0.5	U	NA		NA		NA		0.007	U	82	U	69	U	142		535
MW-150*	04/21/09	0.5	U	NA		NA		NA		0.007	U	240	U	69	U	300		516
MW-150*	06/23/09	0.5	U	NA		NA		NA		0.008	U	160	U	69	U	220		522
MW-150*	08/18/09	0.5	U	NA		NA		NA		0.013	U	110	U	72	U	171		529
MW-150*	10/26/09	0.5	U	NA		NA		NA		0.012	U	420	U	270		715		507
MW-150*	01/19/10	NA		NA		NA		NA		NA	U	31	U	69	U	91		558
MW-150*	04/20/10	NA		NA		NA		NA		NA	U	48	U	77	U	112		546
MW-150*	07/20/10	NA		NA		NA		NA		NA	U	200	U	68	U	259		519
MW-150*	10/26/10	0.5	U	NA		NA		NA		0.012	U	59	U	65	U	117		544
MW-150*	03/22/11	NA		NA		NA		NA		NA	U	29	U	67	U	73	UU	574
MW-150*	06/17/11	NA		NA		NA		NA		NA	U	190	U	68	U	249		520
MW-150*	09/27/11	NA		NA		NA		NA		NA	U	30	U	68	U	74	UU	573
MW-150*	12/13/11	0.2	U	NA		NA		NA		0.007	U	29	U	68	U	74	UU	573
MW-150* (Duplicate)	12/13/11	0.2	U	NA		NA		NA		0.007	U	28	U	66	U	72	UU	575
MW-150*	03/28/12	NA		NA		NA		NA		NA	U	29	U	67	U	73	UU	574
MW-150*	06/28/12	NA		NA		NA		NA		NA	U	29	U	68	U	74	UU	573
MW-150*	09/26/12	NA		NA		NA		NA		NA	U	29	U	68	U	74	UU	573
MW-150*	12/14/12	0.2	U	NA		NA		NA		0.008	U	30	U	69	U	75	UU	572
MW-150*	03/26/13	NA		NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-150*	06/25/13	NA		NA		NA		NA		NA	U	30	U	69	U	75	UU	572
MW-150*	09/26/13	NA		NA		NA		NA		NA	U	30	U	69	U	75	UU	572
MW-150*	12/17/13	0.2	U	NA		NA		NA		0.008	U	30	U	70	U	75	UU	571
MW-150*	03/28/14	NA		NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-150*	06/18/14	NA		NA		NA		NA		NA	U	29	U	67	U	73	UU	574
MW-150*	09/30/14	NA		NA		NA		NA		NA	U	31	U	71	U	76	UU	570
MW-150* (Duplicate)	09/30/14	NA		NA		NA		NA		NA	U	30	U	71	U	76	UU	571
MW-150*	12/09/14	0.4	U	NA		NA		NA		0.008	U	28	U	66	U	72	UU	575
MW-150* (Duplicate)	12/09/14	0.2	U	NA		NA		NA		0.008	U	30	U	70	U	75	UU	571
MW-150*	03/25/15	NA		NA		NA		NA		NA	U	29	U	67	U	73	UU	574
MW-150*	06/23/15	NA		NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-203	06/28/12	NA		NA		NA		NA		NA	U	29	U	68	U	74	UU	573
MW-203	12/17/12	0.2	U	NA		NA		NA		0.008	U	31	U	72	U	77	UU	570
MW-203	06/27/13	NA		NA		NA		NA		NA	U	29	U	67	U	73	UU	574
MW-203	12/19/13	0.2	U	NA		NA		NA		0.008	U	30	U	70	U	75	UU	571
MW-203	06/18/14	NA		NA		NA		NA		NA	U	30	U	70	U	75	UU	571
MW-203	12/10/14	0.3		NA		NA		NA		0.008	U	28	U	65	U	72	UU	575
MW-203	06/24/15	NA		NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-20R*	10/22/08	2.95		0.50	U	3.31		1.00	U	0.008	U	250	U	500	U	597		581
MW-20R*	12/10/08	22.2		0.50	U	2.06		1.14		0.007	U	248	U	495	U	697		606
MW-20R*	02/24/09	55		NA		NA		NA		0.007	U	580	U	87		1,087		585
MW-20R*	04/22/09	47		NA		NA		NA		0.008	U	510	U	86		866		566
MW-20R*	06/24/09	0.5	U	NA		NA		NA		0.007	U	160	U	69	U	220		522
MW-20R*	08/19/09	8.4		NA		NA		NA		0.012	U	220	U	68	U	279		517
MW-20R*	10/27/09	4.9		NA		NA		NA		0.013	U	170	U	72	U	231		521
MW-20R*	01/19/10	50		0.5	U	1.1		1.5	U	NA	U	260	U	66	U	359		537
MW-20R*	04/21/10	0.9		NA		NA		NA		NA	U	350	U	100		475		510
MW-20R*	07/20/10	0.5		0.5	U	0.5		0.5	U	NA	U	130	U	66	U	188		526
MW-20R* (Duplicate)	07/20/10	0.5		0.5	U	0.5		0.5	U	NA	U	130	U	66	U	188		526
MW-20R*	10/27/10	0.5	U	NA		NA		NA		0.012	U	47	U	75	U	110		547

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)
		B	T	E	X											
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6		
MW-20R*	03/23/11	5.3	NA	NA	NA	NA	U	390		50	U	190		605		508
MW-20R*	06/15/11	3.9	NA	NA	NA	NA	U	320		71		72		463		531
MW-20R*	09/27/11	0.9	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-20R*	12/14/11	20	NA	NA	NA	0.007	U	29	U	65		67	U	113		638
MW-20R*	03/28/12	28	NA	NA	NA	NA	U	29	U	120		67	U	168		683
MW-20R*	06/28/12	0.3	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-20R*	09/26/12	2.2	NA	NA	NA	NA	U	30	U	57		70	U	107		625
MW-20R*	12/17/12	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-20R*	03/26/13	3.7	NA	NA	NA	NA	U	29	U	310		68	U	359		740
MW-20R*	06/25/13	1.1	NA	NA	NA	NA	U	29	U	69		67	U	117		642
MW-20R*	09/25/13	0.5	U	0.5	U	0.5	U	31	U	50	U	72	U	77	UU	570
MW-20R* (Duplicate)	09/25/13	NA		NA		NA		30	U	50	U	69	U	75	UU	572
MW-20R*	12/18/13	35	NA	NA	NA	0.008	U	30	U	82		70	U	132		652
MW-20R*	03/26/14	38	NA	NA	NA	NA	U	29	U	210		67	U	258		720
MW-20R*	06/18/14	0.7	NA	NA	NA	NA	U	28	U	98		66	U	145		670
MW-20R*	10/01/14	0.8	NA	NA	NA	NA	U	32	U	50	U	74	U	78	UU	568
MW-20R*	12/10/14	0.8	NA	NA	NA	0.008	U	30	U	50	U	69	U	75	UU	572
MW-20R*	03/24/15	0.4	NA	NA	NA	NA	U	31	U	88		71	U	139		656
MW-20R*	06/24/15	NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-20R*	10/25/16	0.5	U	0.5	U	0.5	U	45	U	50	U	100	U	98	UU	553
MW-20R*	07/26/17	1.6	NA	NA	NA	0.008	U	46	U	64		100	U	137		606
MW-20R*	03/22/18	0.5	U	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-20R*	06/29/18	0.5	U	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553
MW-20R*	09/18/18	0.5	U	NA	NA	0.008	U	50	U	19	U	110	U	90	UU	521
MW-20R*	11/29/18	0.5	U	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-20R* (Duplicate)	11/29/18	0.5	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523
MW-20R*	03/20/19	0.0	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523
MW-20R*	06/19/19	0.5	U	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-20R* (Duplicate)	06/19/19	0.5	U	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-20R*	09/18/19	0.2	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523
MW-20R*	12/12/19	1.0	NA	NA	NA	0.009	U	50	U	34	J	110	U	114		563
MW-20R*	03/10/20	0.2	U	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522
MW-20R*	07/01/20	0.2	U	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-20R*	09/23/20	0.2	U	NA	NA	0.008	UU	49	U	19	U	110	U	89	UU	521
MW-20R*	11/06/20	0.20	U	NA	NA	0.008	UU	49	U	19	U	110	U	89	UU	521
MW-500*	10/27/08	0.8		0.50	U	0.93		0.007	U	1,180		472	U	1,714		535
MW-500*	12/15/08	0.5	U	0.50	U	0.50	U	0.007	U	245	U	490	U	393	UU	512
MW-500*	02/27/09	0.5	U	NA		NA		0.008	U	250	U	50	U	595		508
MW-500*	04/24/09	0.5	U	NA		NA		0.007	U	44	U	76	U	107		548
MW-500* (Duplicate)	04/24/09	0.5	U	NA		NA		0.008	U	35	U	75	U	98		553
MW-500*	06/29/09	0.5	U	NA		NA		0.008	U	1,400	U	500		1,925		502
MW-500*	08/21/09	0.6		NA		NA		0.012	U	2,200		690		3,000		507
MW-500*	10/29/09	0.5	U	NA		NA		0.012	U	1,000	U	500		1,525		503
MW-500*	01/21/10	NA		NA		NA		NA	U	36	U	70		131		539
MW-500* (Duplicate)	01/21/10	NA		NA		NA		NA	U	29	U	69	U	74	UU	573
MW-500*	04/22/10	NA		NA		NA		NA	U	59	U	68	U	118		543
MW-500*	07/22/10	NA		NA		NA		NA	U	490	U	96		611		508
MW-500*	11/01/10	0.5	U	NA		NA		0.012	U	170	U	67	U	229		521
MW-500*	03/24/11	NA		NA		NA		NA	U	32	U	68	U	91		557
MW-500*	06/17/11	NA		NA		NA		NA	U	130	U	67	U	189		526
MW-500*	09/28/11	NA		NA		NA		NA	U	61		69	U	156		585
MW-500* (Duplicate)	09/28/11	NA		NA		NA		NA	U	45		98	U	156		588
MW-500*	12/16/11	0.2	U	NA		NA		0.008	U	28	U	66	U	72	UU	575
MW-500*	03/28/12	NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-500*	07/02/12	NA		NA		NA		NA	U	29	U	69	U	74	UU	573
MW-500*	09/28/12	NA		NA		NA		NA	U	230		150		460		535
MW-500*	12/19/12	0.2	U	NA		NA		0.008	U	28	U	66	U	72	UU	575
MW-500*	03/28/13	NA		NA		NA		NA	U	28	U	66	U	72	UU	575
MW-500*	06/28/13	NA		NA		NA		NA	U	29	U	67	U	77	UU	581
MW-500*	09/26/13	NA		NA		NA		NA	U	41	U	70	U	101		551
MW-500*	12/20/13	0.2	U	NA		NA		0.008	U	30	U	69	U	75	UU	572

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)
		B	T	E	X											
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6		
MW-500*	03/28/14	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-500*	06/19/14	NA	NA	NA	NA	NA	U	29	U	72	U	67	U	120		645
MW-500*	10/01/14	NA	NA	NA	NA	NA	U	130		65		83		278		548
MW-500*	12/11/14	0.2	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-500*	03/26/15	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-500*	06/26/15	NA		NA	NA	NA	U	83		93		66	U	209		600
MW-501*	10/24/08	0.50	U	1.42	U	1.15	U	1.00	U	6,690	J	1,040	J	8,327		525
MW-501*	12/15/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	UU	512
MW-501*	03/02/09	0.5	U	NA		NA		NA	U	630	U	50.00	U	160		506
MW-501* (Duplicate)	03/02/09	5.0	U	NA		NA		NA	U	550	U	50.00	U	210		506
MW-501*	04/24/09	0.5	U	NA		NA		NA	U	350	U	50	U	67		511
MW-501*	06/26/09	0.5	U	NA		NA		NA	U	1,700	U	50	U	1,100		502
MW-501*	08/21/09	0.5	U	NA		NA		NA	U	2,600	U	50	U	760		501
MW-501*	10/29/09	0.5	U	NA		NA		NA	U	75	U	50	U	73	U	537
MW-501*	01/21/10	NA		NA		NA		NA	U	75	U	50	U	67	U	538
MW-501*	04/22/10	NA		NA		NA		NA	U	130	U	50	U	69	U	526
MW-501*	07/22/10	NA		NA		NA		NA	U	470	U	50	U	97		508
MW-501*	11/01/10	0.5	U	NA		NA		NA	U	230	U	50	U	68	U	517
MW-501*	03/24/11	NA		NA		NA		NA	U	89	U	50	U	67	U	534
MW-501*	06/17/11	NA		NA		NA		NA	U	340	U	50	U	82		511
MW-501*	09/28/11	NA		NA		NA		NA	U	30	U	50	U	67	U	573
MW-501*	12/16/11	0.2	U	NA		NA		NA	U	28	U	50	U	66	UU	575
MW-501*	03/28/12	NA		NA		NA		NA	U	29	U	50	U	67	UU	574
MW-501*	07/02/12	NA		NA		NA		NA	U	31	U	50	U	73	UU	569
MW-501*	09/28/12	NA		NA		NA		NA	U	29	U	50	U	67	UU	574
MW-501*	12/19/12	0.2	U	NA		NA		NA	U	54	U	50	U	67	U	545
MW-501*	03/28/13	NA		NA		NA		NA	U	30	U	50	U	70	UU	571
MW-501*	06/27/13	NA		NA		NA		NA	U	30	U	50	U	70	UU	571
MW-501*	09/26/13	NA		NA		NA		NA	U	30	U	50	U	71	UU	571
MW-501*	12/20/13	0.2	U	NA		NA		NA	U	29	U	50	U	67	UU	574
MW-501*	03/28/14	NA		NA		NA		NA	U	29	U	50	U	67	UU	574
MW-501*	06/19/14	NA		NA		NA		NA	U	29	U	50	U	67	UU	574
MW-501*	10/01/14	NA		NA		NA		NA	U	30	U	50	U	71	UU	571
MW-501*	12/11/14	0.2	U	NA		NA		NA	U	28	U	50	U	66	UU	575
MW-501*	03/26/15	NA		NA		NA		NA	U	29	U	50	U	68	UU	573
MW-501*	06/26/15	NA		NA		NA		NA	U	28	U	50	U	66	UU	575
MW-502	10/24/08	0.50	U	0.50	U	0.891	U	1.00	U	347	JZ	1,100	U	1,697		661
MW-502	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	321	JX	874	U	1,438		648
MW-502	02/25/09	0.5	U	NA		NA		NA	U	31	U	1,500	U	72		784
MW-502	04/22/09	0.5	U	NA		NA		NA	U	0.071	U	1,100	U	66		689
MW-502	06/26/09	0.5	U	NA		NA		NA	U	260		170		82		571
MW-502 (Duplicate)	06/26/09	0.5	U	NA		NA		NA	U	220		160		66		585
MW-502	08/21/09	0.5	U	NA		NA		NA	U	140	U	50	U	67		525
MW-502	10/28/09	0.5	U	NA		NA		NA	U	370		470		66		626
MW-502	01/21/10	NA		NA		NA		NA	U	300		800		130		661
MW-502	04/22/10	NA		NA		NA		NA	U	290		520		67		650
MW-502	07/21/10	NA		NA		NA		NA	U	200		50	U	68		519
MW-502	10/28/10	0.5	U	NA		NA		NA	U	98	U	50	U	75		531
MW-502	06/17/11	NA		NA		NA		NA	U	150		50	U	67		524
MW-502	12/16/11	0.2	U	NA		NA		NA	U	30		50	U	66		560
MW-502	07/02/12	NA		NA		NA		NA	U	29	U	50	U	68	UU	573
MW-502	12/19/12	0.2	U	NA		NA		NA	U	95		180		68		640
MW-502 (Duplicate)	12/19/12	0.2	U	NA		NA		NA	U	95		190		66		644
MW-502	06/26/13	NA		NA		NA		NA	U	29	U	50	U	67	UU	574
MW-502	12/20/13	0.2	U	NA		NA		NA	U	30	U	50	U	70	UU	571
MW-502	06/19/14	NA		NA		NA		NA	U	29	U	50	U	68	UU	573
MW-502	12/11/14	0.2	U	NA		NA		NA	U	29	U	50	U	68	UU	573
MW-502	06/25/15	NA		NA		NA		NA	U	28	U	50	U	66	UU	575
MW-502	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	46	U	50	U	100	UU	553
MW-502	07/26/17	0.5	U	NA		NA		NA	U	47	U	50	U	100	UU	553
MW-502 (Duplicate)	07/26/17	0.5	U	NA		NA		NA	U	46	U	50	U	100	UU	553

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 11720 Unoco Road
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Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B	T	E	X													
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6				
MW-502	03/21/18	0.2	U	NA	NA	NA	0.008	U	48	U	50	U	110	U	104	UU	550	
MW-502	06/27/18	0.5	U	NA	NA	NA	0.008	U	50	U	50	U	110	U	105	UU	549	
MW-502	09/20/18	0.5	U	NA	NA	NA	0.008	U	47	U	19	U	110	U	88	UU	521	
MW-502	11/28/18	0.5	U	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-502	03/20/19	0.0	U	NA	NA	NA	0.008	U	57	U	19	U	130	U	103	UU	518	
MW-502	06/18/19	0.5	U	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-502 (Duplicate)	06/18/19	0.5	U	NA	NA	NA	0.013	U	46	U	19	U	100	U	83	UU	523	
MW-502	09/18/19	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-502 (Duplicate)	09/18/19	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-502	12/09/19	0.2	U	NA	NA	NA	0.008	U	52	U	19	U	120	U	96	UU	519	
MW-502	03/09/20	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-502	07/01/20	0.2	U	NA	NA	NA	0.078	U	51	U	19	U	110	U	90	UU	521	
MW-502	09/21/20	0.2	U	NA	NA	NA	0.008	UU	47	U	19	U	100	U	83	UU	522	
MW-502	11/03/20	0.20	U	NA	NA	NA	0.009	UU	49	U	19	U	110	U	89	UU	521	
MW-503	10/27/08	0.50	U	0.50	U	0.50	U	1.00	U	236	U	50	U	472	U	379	UU	513
MW-503	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	U	389	UU	512
MW-503	02/26/09	0.5	U	NA	NA	NA	0.008	U	77	U	50	U	74	U	139	UU	536	
MW-503	04/22/09	0.5	U	NA	NA	NA	0.007	U	130	U	50	U	68	U	189	UU	526	
MW-503	06/26/09	0.5	U	NA	NA	NA	0.007	U	210	U	50	U	96	U	331	UU	515	
MW-503	08/21/09	0.5	U	NA	NA	NA	0.012	U	140	U	50	U	67	U	199	UU	525	
MW-503	10/28/09	0.5	U	NA	NA	NA	0.012	U	160	U	50	U	66	U	218	UU	522	
MW-503	01/21/10	NA	U	NA	NA	NA	NA	U	150	U	50	U	190	U	365	UU	513	
MW-503	04/22/10	NA	U	NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571	
MW-503	07/21/10	NA	U	NA	NA	NA	NA	U	220	U	50	U	68	U	279	UU	517	
MW-503	10/28/10	0.5	U	NA	NA	NA	0.013	U	150	U	50	U	79	U	254	UU	519	
MW-503	06/17/11	NA	U	NA	NA	NA	NA	U	140	U	50	U	67	U	199	UU	525	
MW-503 (Duplicate)	06/17/11	NA	U	NA	NA	NA	NA	U	160	U	50	U	67	U	219	UU	522	
MW-503	12/15/11	0.2	U	NA	NA	NA	0.007	U	28	U	50	U	66	U	72	UU	575	
MW-503	07/02/12	NA	U	NA	NA	NA	NA	U	29	U	50	U	69	U	74	UU	573	
MW-503	12/18/12	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-503	06/27/13	NA	U	NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571	
MW-503	12/19/13	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-503	06/19/14	NA	U	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-503	12/11/14	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	68	U	74	UU	573	
MW-503	06/25/15	NA	U	NA	NA	NA	NA	U	31	U	50	U	72	U	77	UU	570	
MW-503	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	47	U	50	U	100	U	99	UU	553
MW-503	03/21/18	0.2	U	NA	NA	NA	0.008	U	48	U	50	U	110	U	104	UU	550	
MW-503	06/28/18	0.5	U	NA	NA	NA	0.008	U	48	U	50	U	110	U	104	UU	550	
MW-503 (Duplicate)	06/28/18	0.5	U	NA	NA	NA	0.008	U	49	U	50	U	110	U	105	UU	549	
MW-503	09/20/18	0.5	U	NA	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522	
MW-503	11/28/18	0.5	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-503	03/20/19	0.0	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-503	06/18/19	0.5	U	NA	NA	NA	0.037	U	46	U	19	U	100	U	83	UU	523	
MW-503	09/18/19	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-503	12/09/19	0.2	U	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-503	03/10/20	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-503	06/25/20	0.2	U	NA	NA	NA	0.008	UU	47	U	19	U	100	U	83	UU	522	
MW-503	09/21/20	0.2	U	NA	NA	NA	0.008	UU	49	U	19	U	110	U	89	UU	521	
MW-503	11/03/20	0.20	U	NA	NA	NA	0.009	UU	420	U	19	U	430	U	860	UU	502	
MW-504	10/24/08	7.03	U	0.50	U	4.03	U	2.95	U	248	U	329	U	495	U	701	UU	607
MW-504	12/12/08	0.5	U	0.5	U	0.5	U	1.00	U	248	U	50	U	495	U	397	UU	512
MW-504 (Duplicate)	12/12/08	5	U	5	U	5	U	1.00	U	250	U	50	U	500	U	400	UU	512
MW-504	02/27/09	0.5	U	NA	NA	NA	0.007	U	30	U	50	U	70	U	75	UU	571	
MW-504	04/24/09	0.5	U	NA	NA	NA	0.007	U	46	U	50	U	66	U	104	UU	550	
MW-504	06/26/09	0.5	U	NA	NA	NA	0.007	U	220	U	50	U	73	U	282	UU	517	
MW-504	08/21/09	0.5	U	NA	NA	NA	0.012	U	220	U	50	U	68	U	279	UU	517	
MW-504	10/28/09	0.5	U	NA	NA	NA	0.012	U	95	U	50	U	66	U	153	UU	533	
MW-504	01/21/10	NA	U	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-504	04/22/10	NA	U	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-504	07/21/10	NA	U	NA	NA	NA	NA	U	110	U	50	U	75	U	173	UU	529	
MW-504	10/28/10	0.5	U	NA	NA	NA	0.012	U	110	U	50	U	66	U	168	UU	530	
MW-504	06/17/11	NA	U	NA	NA	NA	NA	U	60	U	50	U	68	U	119	UU	543	

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)	
		B	T	E	X												
		CUL=16	--	--	--	CUL=0.05	--	--	--	--	see note 6						
MW-504	12/16/11	0.2	U	NA	NA	NA	0.007	U	28	U	50	U	66	U	72	UU	575
MW-504 (Duplicate)	12/16/11	0.2	U	NA	NA	NA	0.007	U	29	U	50	U	68	U	74	UU	573
MW-504	07/02/12	NA	U	NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572
MW-504	12/18/12	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	68	U	74	UU	573
MW-504	06/27/13	NA	U	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-504 (Duplicate)	06/27/13	NA	U	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-504	12/19/13	0.2	U	NA	NA	NA	0.008	U	28	U	78	U	66	U	125	UU	653
MW-504	06/19/14	NA	U	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573
MW-504	12/11/14	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	68	U	74	UU	573
MW-504	06/25/15	NA	U	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-504	10/25/16	0.5	U	0.5	U	0.5	0.008	U	47	U	50	U	100	U	99	UU	553
MW-504	07/26/17	0.5	U	NA	U	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-504	03/21/18	0.2	U	NA	U	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-504	06/28/18	0.5	U	NA	U	NA	0.008	U	47	U	50	U	100	U	99	UU	553
MW-504	09/20/18	0.5	U	NA	U	NA	0.008	U	51	U	19	U	110	U	90	UU	521
MW-504	11/28/18	0.5	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-504	03/20/19	0.0	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-504	06/18/19	0.5	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-504	09/18/19	0.2	U	NA	U	NA	0.008	U	45	U	21	J	100	U	94	UU	546
MW-504	12/09/19	0.2	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-504	03/10/20	0.2	U	NA	U	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-504	06/25/20	0.2	U	NA	U	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-504	09/22/20	0.2	U	NA	U	NA	0.008	UU	48	U	28	J	110	U	107	UU	554
MW-504	11/05/20	0.20	U	NA	U	NA	0.009	UU	--	R	19	U	120	J	--	UU	--
MW-505	10/24/08	0.5	U	0.5	UJ	0.50	0.008	U	253	U	50	U	505	U	404	UU	512
MW-505 (Duplicate)	10/24/08	5.0	U	5.0	U	2.78	0.007	U	250	U	50	U	500	U	400	UU	512
MW-505	12/15/08	0.5	U	0.5	U	0.50	0.007	U	238	U	50	U	476	U	382	UU	513
MW-505 (Duplicate)	12/15/08	5.0	U	5.0	U	0.647	0.007	U	238	U	50	U	476	U	382	UU	513
MW-505	02/27/09	0.5	U	NA	U	NA	0.008	U	52	U	50	U	78	U	116	UU	544
MW-505	04/22/09	0.5	U	NA	U	NA	0.008	U	59	U	50	U	67	U	118	UU	543
MW-505	06/26/09	0.5	U	NA	U	NA	0.007	U	39	U	50	U	100	U	164	UU	530
MW-505	08/21/09	0.5	U	NA	U	NA	0.013	U	98	U	50	U	75	U	161	UU	531
MW-505	10/28/09	0.5	U	NA	U	NA	0.012	U	67	U	50	U	69	U	127	UU	540
MW-505	01/20/10	NA	U	NA	U	NA	NA	U	30	U	50	U	71	U	76	UU	571
MW-505	04/22/10	NA	U	NA	U	NA	NA	U	30	U	50	U	69	U	75	UU	572
MW-505	07/21/10	NA	U	NA	U	NA	NA	U	220	U	50	U	67	U	279	UU	517
MW-505	10/29/10	0.5	U	NA	U	NA	0.013	U	130	U	50	U	74	U	192	UU	526
MW-505	06/17/11	NA	U	NA	U	NA	NA	U	100	U	50	U	67	U	159	UU	531
MW-505	12/15/11	0.2	U	NA	U	NA	0.007	U	29	U	50	U	67	U	73	UU	574
MW-505	07/02/12	NA	U	NA	U	NA	NA	U	31	U	50	U	73	U	77	UU	569
MW-505 (Duplicate)	07/02/12	NA	U	NA	U	NA	NA	U	32	U	50	U	75	U	95	UU	555
MW-505	12/18/12	0.2	U	NA	U	NA	0.008	U	31	U	50	U	71	U	76	UU	570
MW-505	06/27/13	NA	U	NA	U	NA	NA	U	30	U	50	U	70	U	75	UU	571
MW-505	12/19/13	0.2	U	NA	U	NA	0.008	U	28	U	50	U	66	U	72	UU	575
MW-505	06/19/14	NA	U	NA	U	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-505	12/11/14	0.2	U	NA	U	NA	0.009	U	29	U	50	U	67	U	73	UU	574
MW-505	06/25/15	NA	U	NA	U	NA	NA	U	31	U	50	U	72	U	77	UU	570
MW-505	10/25/16	0.5	U	0.5	U	0.5	0.008	U	45	U	50	U	100	U	98	UU	553
MW-505 (Duplicate)	10/25/16	0.5	U	0.5	U	0.5	0.008	U	46	U	50	U	100	U	98	UU	553
MW-505	07/26/17	0.5	U	NA	U	NA	0.008	U	45	U	50	U	100	U	98	UU	553
MW-505	03/21/18	0.2	U	NA	U	NA	0.008	U	47	U	50	U	100	U	99	UU	553
MW-505	06/28/18	0.5	U	NA	U	NA	0.008	U	46	U	50	U	100	U	98	UU	553
MW-505	09/20/18	0.5	U	NA	U	NA	0.008	U	47	U	19	U	100	U	83	UU	522
MW-505 (Duplicate)	09/20/18	0.5	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-505	11/28/18	0.5	U	NA	U	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-505	03/20/19	0.0	U	NA	U	NA	0.008	U	48	U	19	U	110	U	89	UU	521
MW-505 (Duplicate)	03/20/19	0.0	U	NA	U	NA	0.008	U	47	U	19	U	110	U	88	UU	521
MW-505	06/19/19	0.5	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-505	09/18/19	0.2	U	NA	U	NA	0.008	U	46	U	19	J	100	U	92	UU	542
MW-505	12/09/19	0.2	U	NA	U	NA	0.008	U	47	U	22	J	110	U	101	UU	545
MW-505	03/09/20	0.2	U	NA	U	NA	0.008	U	46	U	19	U	100	U	83	UU	523
MW-505	06/25/20	0.2	U	NA	U	NA	0.008	UU	48	U	19	U	110	U	89	UU	521

Table 3-4
Summary of Groundwater Analytical Data
Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)								Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)					
		B	T	E	X	CUL=16	--	--	--											
MW-505	09/21/20	0.2	U	NA		NA		NA		0.008	UU	46	U	19	U	100	U	83	UU	523
MW-505	11/04/20	0.20	U	NA		NA		NA		0.008	UU	46	U	19	UB	100	U	83	UU	486
MW-506	10/24/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	245	U	50	U	490	U	393	UU	512
MW-506	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	248	U	50	U	495	U	397	UU	512
MW-506	02/27/09	0.5	U	NA		NA		NA		0.007	U	37	U	50	U	70	U	97		553
MW-506	04/24/09	0.5	U	NA		NA		NA		0.008	U	31	U	50	U	72	U	77	UU	570
MW-506	06/26/09	0.5	U	NA		NA		NA		0.007	U	38	U	50	U	140	U	203		524
MW-506	08/21/09	0.5	U	NA		NA		NA		0.013	U	85	U	50	U	75	U	148		534
MW-506	10/30/09	0.5	U	NA		NA		NA		0.016	U	50	U	50	U	74	U	112		546
MW-506	01/21/10	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-506	04/22/10	NA		NA		NA		NA		NA	U	36	U	50	U	75	U	99		553
MW-506	07/21/10	NA		NA		NA		NA		NA	U	57	U	50	U	68	U	116		544
MW-506	10/29/10	0.50	U	NA		NA		NA		0.012	U	97	U	50	U	72	U	158		532
MW-506 (Duplicate)	10/29/10	0.5	U	NA		NA		NA		0.012	U	72	U	50	U	71	U	133		538
MW-506	06/16/11	NA		NA		NA		NA		NA	U	50	U	50	U	67	U	109		547
MW-506	12/15/11	0.2	U	NA		NA		NA		0.007	U	29	U	50	U	67	U	73	UU	574
MW-506	06/29/12	NA		NA		NA		NA		NA	U	30	U	50	U	70	U	75	UU	571
MW-506	12/19/12	0.2	U	NA		NA		NA		0.008	U	29	U	50	U	67	U	73	UU	574
MW-506	06/27/12	NA		NA		NA		NA		NA	U	29	U	50	U	67	U	73	UU	574
MW-506	12/19/13	0.2	U	NA		NA		NA		0.008	U	28	U	50	U	66	U	72	UU	575
MW-506 (Duplicate)	12/19/13	0.2	U	NA		NA		NA		0.008	U	28	U	50	U	60	U	69	UU	579
MW-506	06/19/14	NA		NA		NA		NA		NA	U	29	U	50	U	67	U	73	UU	574
MW-506	12/11/14	0.2	U	NA		NA		NA		0.008	U	29	U	50	U	67	U	73	UU	574
MW-506	06/25/15	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-506	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	46	U	50	U	100	U	98	UU	553
MW-506	07/27/17	0.5	U	NA		NA		NA		0.008	U	46	U	50	U	100	U	98	UU	553
MW-506	03/21/18	0.2	U	NA		NA		NA		0.008	U	46	U	50	U	100	U	98	UU	553
MW-506 (Duplicate)	03/21/18	0.2	U	NA		NA		NA		0.008	U	46	U	50	U	100	U	98	UU	553
MW-506	06/28/18	0.5	U	NA		NA		NA		0.008	U	47	U	50	U	100	U	99	UU	553
MW-506	09/19/18	0.5	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-506	11/28/18	0.5	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-506	03/20/19	0.0	U	NA		NA		NA		0.008	U	47	U	19	U	100	U	83	UU	522
MW-506	06/19/19	0.5	U	NA		NA		NA		0.008	U	52	U	19	U	120	U	96	UU	519
MW-506	09/19/19	0.2	U	NA		NA		NA		0.008	U	46	U	23	J	100	U	96		549
MW-506	12/09/19	0.2	U	NA		NA		NA		0.008	U	49	U	19	U	110	U	89	UU	521
MW-506	03/10/20	0.2	U	NA		NA		NA		0.008	UU	46	U	19	U	100	U	83	UU	523
MW-506	06/24/20	0.2	U	NA		NA		NA		0.008	UU	50	U	30	J	110	U	110		557
MW-506	09/21/20	0.2	U	NA		NA		NA		0.009	UU	47	U	28	J	110	U	107		555
MW-506	11/05/20	0.20	U	NA		NA		NA		0.008	UU	--	R	33	J	--	R	--		--
MW-507	10/24/08	0.995		0.50	U	0.50	U	1.00	U	0.007	U	240	U	523		481	U	884		643
MW-507	12/12/08	0.605		0.50	U	0.50	U	1.00	U	0.007	U	245	U	194		490	U	562		574
MW-507	02/27/09	0.5	U	NA		NA		NA		0.007	U	610		120		310		1,040		523
MW-507 (Duplicate)	02/27/09	5	U	NA		NA		NA		0.007	U	560		130		120		810		532
MW-507	04/24/09	0.5	U	NA		NA		NA		0.007	U	520		59	U	74		616		519
MW-507	06/26/09	0.5	U	NA		NA		NA		0.007	U	640		62		440		1,142		510
MW-507	08/21/09	0.5	U	NA		NA		NA		0.013	U	450		54		69	U	539		520
MW-507 (Duplicate)	08/21/09	0.5	U	NA		NA		NA		0.012	U	500		50	U	72	U	561		508
MW-507	10/28/09	0.5	U	NA		NA		NA		0.013	U	900		50	U	88		1,013		505
MW-507	01/21/10	NA		NA		NA		NA		NA	U	270		50	U	88		383		513
MW-507	04/22/10	NA		NA		NA		NA		NA	U	290		50	U	91		406		512
MW-507	07/21/10	NA		NA		NA		NA		NA	U	330		50	U	80		435		511
MW-507	10/29/10	0.5	U	NA		NA		NA		0.012	U	370		50	U	220		615		508
MW-507	06/17/11	NA		NA		NA		NA		NA	U	200		50	U	88		313		515
MW-507	12/16/11	0.2	U	NA		NA		NA		0.007	U	28	U	50	U	66	U	72	UU	575
MW-507 (Duplicate)	12/16/11	0.2	U	NA		NA		NA		0.007	U	29	U	50	U	67	U	73	UU	574
MW-507	06/29/12	NA		NA		NA		NA		NA	U	29	U	50	U	67	U	73	UU	574
MW-507	12/19/12	0.2	U	NA		NA		NA		0.008	U	28	U	50	U	66	U	72	UU	575
MW-507	06/27/13	NA		NA		NA		NA		NA	U	29	U	50	U	68	U	74	UU	573
MW-507	12/19/13	0.2	U	NA		NA		NA		0.008	U	28	U	50	U	66	U	72	UU	575
MW-507	06/19/14	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-507	12/11/14	0.2	U	NA		NA		NA		0.009	U	29	U	50	U	68	U	74	UU	573
MW-507	06/25/15	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575

Table 3-4
Summary of Groundwater Analytical Data
Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)								Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)					
		B		T		E		X												
		CUL=16		--		--		--								CUL=0.05	--	--	--	see note 6
MW-507	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	46	U	50	U	100	U	98	UU	553
MW-507	07/27/17	0.5	U	NA	U	NA	U	NA	U	0.008	U	46	U	50	U	100	U	98	UU	553
MW-507 (Duplicate)	07/27/17	0.5	U	NA	U	NA	U	NA	U	0.008	U	46	U	50	U	100	U	98	UU	553
MW-507	03/21/18	0.2	U	NA	U	NA	U	NA	U	0.008	U	47	U	50	U	100	U	99	UU	553
MW-507	06/28/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	46	U	50	U	100	U	98	UU	553
MW-507	09/19/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	48	U	19	U	110	U	89	UU	521
MW-507 (Duplicate)	09/19/18	0.5	U	NA	U	NA	U	NA	U	0.009	U	49	U	19	U	110	U	89	UU	521
MW-507	11/28/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	45	U	19	U	100	U	82	UU	523
MW-507	03/20/19	0.0	U	NA	U	NA	U	NA	U	0.008	U	47	U	19	U	100	U	83	UU	522
MW-507	06/19/19	0.5	U	NA	U	NA	U	NA	U	0.008	U	52	U	19	U	120	U	96	UU	519
MW-507 (Duplicate)	06/19/19	0.5	U	NA	U	NA	U	NA	U	0.008	U	52	U	19	U	110	U	91	UU	520
MW-507	09/19/19	0.2	U	NA	U	NA	U	NA	U	0.008	U	46	U	19	U	100	U	83	UU	523
MW-507 (Duplicate)	09/19/19	0.2	U	NA	U	NA	U	NA	U	0.008	U	45	U	19	U	100	U	82	UU	523
MW-507	12/09/19	0.2	U	NA	U	NA	U	NA	U	0.030	U	50	U	19	U	110	U	90	UU	521
MW-507	03/09/20	0.2	U	NA	U	NA	U	NA	U	0.008	U	46	U	19	U	100	U	83	UU	523
MW-507	06/24/20	0.2	U	NA	U	NA	U	NA	U	0.008	UU	47	U	19	U	110	U	88	UU	521
MW-507	09/21/20	0.2	U	NA	U	NA	U	NA	U	0.008	UU	48	U	19	U	110	U	89	UU	521
MW-507	11/05/20	0.20	U	NA	U	NA	U	NA	U	0.009	UU	--	R	19	U	--	R	--		--
MW-509	10/23/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	243	U	50	U	485	U	389	UU	512
MW-509	12/11/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	243	U	50	U	485	U	389	UU	512
MW-509	02/25/09	0.5	U	NA	U	NA	U	NA	U	0.008	U	32	U	50	U	75	U	79	UU	568
MW-509	04/23/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	31	U	50	U	71	U	76	UU	570
MW-509	06/25/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	29	U	50	U	68	U	88	UU	560
MW-509	08/21/09	0.5	U	NA	U	NA	U	NA	U	0.012	U	46	U	50	U	70	U	106	UU	549
MW-509	10/28/09	0.5	U	NA	U	NA	U	NA	U	0.012	U	48	U	50	U	76	U	111	UU	546
MW-509	01/20/10	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-509	04/21/10	NA		NA		NA		NA		NA	U	43	U	50	U	68	U	102	UU	551
MW-509	07/21/10	NA		NA		NA		NA		NA	U	34	U	50	U	75	U	97	UU	554
MW-509 (Duplicate)	07/21/10	NA		NA		NA		NA		NA	U	34	U	50	U	74	U	96	UU	554
MW-509	10/28/10	0.5	U	NA	U	NA	U	NA	U	0.012	U	40	U	50	U	76	U	103	UU	550
MW-509	06/16/11	NA		NA		NA		NA		NA	U	29	U	50	U	67	U	73	UU	574
MW-509	12/15/11	0.2	U	NA	U	NA	U	NA	U	0.007	U	29	U	50	U	67	U	73	UU	574
MW-509	06/29/12	NA		NA		NA		NA		NA	U	29	U	50	U	68	U	74	UU	573
MW-509	12/19/12	0.2	U	NA	U	NA	U	NA	U	0.008	U	28	U	50	U	66	U	72	UU	575
MW-509	06/27/13	NA		NA		NA		NA		NA	U	29	U	50	U	67	U	73	UU	574
MW-509	12/19/13	0.2	U	NA	U	NA	U	NA	U	0.008	U	28	U	50	U	66	U	72	UU	575
MW-509	06/19/14	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-509 (Duplicate)	06/19/14	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-509	12/11/14	0.2	U	NA	U	NA	U	NA	U	0.008	U	28	U	50	U	66	U	72	UU	575
MW-509	06/25/15	NA		NA		NA		NA		NA	U	30	U	50	U	70	U	75	UU	571
MW-509 (Duplicate)	06/25/15	NA		NA		NA		NA		NA	U	31	U	50	U	72	U	77	UU	570
MW-509	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	47	U	50	U	100	U	99	UU	553
MW-509	07/27/17	0.5	U	NA	U	NA	U	NA	U	0.008	U	45	U	50	U	100	U	98	UU	553
MW-509	03/21/18	0.2	U	NA	U	NA	U	NA	U	0.008	U	49	U	50	U	110	U	105	UU	549
MW-509	06/28/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	47	U	50	U	110	U	104	UU	550
MW-509	09/19/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	82	U	19	U	110	U	147	UU	512
MW-509	11/28/18	0.5	U	NA	U	NA	U	NA	U	0.008	U	46	U	19	U	100	U	83	UU	523
MW-509	03/20/19	0.0	U	NA	U	NA	U	NA	U	0.008	U	48	U	19	U	110	U	89	UU	521
MW-509	06/19/19	0.5	U	NA	U	NA	U	NA	U	0.008	U	48	U	19	U	110	U	89	UU	521
MW-509	09/19/19	0.2	U	NA	U	NA	U	NA	U	0.008	U	46	U	19	U	100	U	83	UU	523
MW-509	12/09/19	0.2	U	NA	U	NA	U	NA	U	0.008	U	50	U	19	U	440	U	475	UU	504
MW-509	03/09/20	0.2	U	NA	U	NA	U	NA	U	0.008	U	46	U	19	U	100	U	83	UU	523
MW-509	06/25/20	0.2	U	NA	U	NA	U	NA	U	0.008	UU	140	B	19	U	100	U	200	UU	509
MW-509	09/21/20	0.2	U	NA	U	NA	U	NA	U	0.009	UU	47	U	19	U	100	U	83	UU	522
MW-509	11/05/20	0.20	U	NA	U	NA	U	NA	U	0.008	UU	--	R	19	U	--	R	--		--
MW-511	10/24/08	0.50	U	0.50	U	0.50	U	1.00	U	0.008	U	250	U	50	U	500	U	400	UU	512
MW-511	12/12/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	243	U	50	U	485	U	389	UU	512
MW-511	02/25/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	30	U	50	U	70	U	75	UU	571
MW-511	04/21/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	28	U	50	U	66	U	72	UU	575
MW-511	06/24/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	28	U	50	U	66	U	72	UU	575
MW-511 (Duplicate)	06/24/09	0.5	U	NA	U	NA	U	NA	U	0.007	U	28	U	50	U	66	U	72	UU	575
MW-511	08/19/09	0.5	U	NA	U	NA	U	NA	U	0.012	U	32	U	50	U	74	U	94	UU	555

Table 3-4
Summary of Groundwater Analytical Data
Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)									
		B	T	E	X															
		CUL=16	--	--	--							CUL=0.05	--	--	--	see note 6				
MW-511	10/28/09	0.5	U	NA	NA	NA	0.012	U	33	U	50	U	65	U	91		558			
MW-511 (Duplicate)	10/28/09	0.5	U	NA	NA	NA	0.012	U	28	U	50	U	65	U	72	UU	575			
MW-511	01/20/10	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575			
MW-511	04/22/10	NA		NA	NA	NA	NA	U	32	U	50	U	75	U	79	UU	568			
MW-511	07/22/10	NA		NA	NA	NA	NA	U	72	U	50	U	67	U	131		539			
MW-511	10/28/10	0.5	U	NA	NA	NA	0.012	U	36		50	U	67	U	95		555			
MW-511	06/17/11	NA		NA	NA	NA	NA	U	100		50	U	70	U	160		531			
MW-511	12/19/11	0.2	U	NA	NA	NA	0.007	U	29	U	50	U	67	U	73	UU	574			
MW-511	06/28/12	NA		NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572			
MW-511 (Duplicate)	06/28/12	NA		NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573			
MW-511	12/14/12	0.2	U	NA	NA	NA	0.008	U	44		50	U	240		309		516			
MW-511	06/27/13	NA		NA	NA	NA	NA	U	30	U	50	U	71	U	76	UU	571			
MW-511	12/19/13	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	68	U	74	UU	573			
MW-511 (Duplicate)	12/19/13	0.2	U	NA	NA	NA	0.008	U	31	U	50	U	71	U	76	UU	570			
MW-511	06/18/14	NA		NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574			
MW-511	12/10/14	0.3		NA	NA	NA	0.008	U	29	U	50	U	68	U	74	UU	573			
MW-511	03/25/15	NA		NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573			
MW-511	06/24/15	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575			
MW-511 (Duplicate)	06/24/15	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575			
MW-511	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	45	U	50	U	100	U	98	UU	553
MW-511	07/27/17	0.5	U	NA	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553			
MW-511	03/21/18	0.2	U	NA	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553			
MW-511	06/27/18	0.5	U	NA	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553			
MW-511	09/20/18	0.5	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523			
MW-511	11/29/18	0.5	U	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523			
MW-511	03/21/19	0.5	U	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523			
MW-511	06/18/19	0.5	U	NA	NA	NA	0.008	U	91	J	19	U	100	U	151		512			
MW-511	09/19/19	0.2	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523			
MW-511	12/09/19	0.2	U	NA	NA	NA	0.008	U	49	U	19	U	110	U	89	UU	521			
MW-511	03/10/20	0.2	U	NA	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522			
MW-511	07/01/20	0.2	U	NA	NA	NA	0.009	UU	52	U	19	U	120	U	96	UU	519			
MW-511	09/22/20	0.2	U	NA	NA	NA	0.009	UU	45	U	19	U	100	U	82	UU	523			
MW-511	11/03/20	0.20	U	NA	NA	NA	0.009	UU	51	U	19	U	110	U	90	UU	521			
MW-512	10/23/08	1.97		0.50	U	2.96		5.23	0.008	U	250	U	348	U	500	U	723		610	
MW-512	12/11/08	2.5		0.50	U	2.17		3.58	0.007	U	243	U	320	U	485	U	684		606	
MW-512	02/25/09	1.5		NA		NA		NA	0.007	U	390		280		78		748		582	
MW-512	04/21/09	2.7		NA		NA		NA	0.007	U	260		240		67	U	534		601	
MW-512 (Duplicate)	04/21/09	3.7		NA		NA		NA	0.007	U	220		280		66	U	533		623	
MW-512	06/24/09	0.8		NA		NA		NA	0.007	U	180		84		78		342		551	
MW-512	08/19/08	1.3		NA		NA		NA	0.012	U	220		110		66	U	363		564	
MW-512	10/27/09	0.6		NA		NA		NA	0.012	U	190		92		67	U	316		561	
MW-512	01/20/10	NA		NA		NA		NA	NA	U	300		200		75		575		575	
MW-512	04/21/10	NA		NA		NA		NA	NA	U	420		110		140		670		533	
MW-512	07/21/10	NA		NA		NA		NA	NA	U	150		82		67	U	266		565	
MW-512	10/28/10	0.5	U	NA		NA		NA	0.012	U	220		93		67	U	347		556	
MW-512	06/16/11	NA		NA		NA		NA	NA	U	200		74		67	U	308		550	
MW-512 (Duplicate)	06/16/11	NA		NA		NA		NA	NA	U	190		79		67	U	303		554	
MW-512	12/15/11	0.40		NA		NA		NA	0.007	U	33		120		68	U	187		658	
MW-512	06/29/12	NA		NA		NA		NA	NA	U	57		190		68	U	281		670	
MW-512	12/17/12	0.3		NA		NA		NA	0.008	U	32		120		67	U	186		660	
MW-512	06/26/13	NA		NA		NA		NA	NA	U	29	U	62		68	U	111		633	
MW-512	12/18/13	0.2	U	NA		NA		NA	0.008	U	44		140		67	U	218		659	
MW-512	06/17/14	NA		NA		NA		NA	NA	U	48		110		68	U	192		637	
MW-512	12/11/14	0.2	U	NA		NA		NA	0.008	U	42	U	50		68	U	101		551	
MW-512	06/24/15	NA		NA		NA		NA	NA	U	31		58		66	U	122		608	
MW-512	10/25/16	0.5	U	0.50	U	0.50	U	1.50	U	0.008	U	62		90		100	U	202		600
MW-512	07/26/17	0.5	U	NA		NA		NA	0.008	U	46	U	120		100	U	193		652	
MW-512	03/21/18	0.2	U	NA		NA		NA	0.008	U	46	U	50	U	100	U	98	UU	553	
MW-512 (Duplicate)	03/21/18	0.2	U	NA		NA		NA	0.008	U	46	U	50	U	100	U	98	UU	553	
MW-512	06/28/18	0.5	U	NA		NA		NA	0.008	U	50	U	50	U	110	U	105	UU	549	
MW-512 (Duplicate)	06/28/18	0.5	U	NA		NA		NA	0.008	U	49	U	50	U	110	U	105	UU	549	
MW-512	09/20/18	0.5	U	NA		NA		NA	0.008	U	47	U	19	U	100	U	83	UU	522	

Table 3-4
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Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)							
		B	T	E	X													
		CUL=16	--	--	--													
MW-512	11/29/18	0.5	U	NA	NA	NA	NA	0.017	U	46	U	19	U	100	U	83	UU	523
MW-512	03/21/19	0.5	U	NA	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523
MW-512	06/18/19	0.5	U	NA	NA	NA	NA	0.008	U	160	U	19	U	100	U	220		508
MW-512	09/19/19	0.2	U	NA	NA	NA	NA	0.008	U	46	U	45	J	100	U	118		583
MW-512	12/09/19	0.2	U	NA	NA	NA	NA	0.008	U	47	U	61	J	110	U	140		598
MW-512	03/10/20	0.2	U	NA	NA	NA	NA	0.008	U	47	U	19	U	110	U	88	UU	521
MW-512	06/25/20	0.2	U	NA	NA	NA	NA	0.008	UU	47	U	28	J	100	U	102		558
MW-512	09/22/20	0.2	U	NA	NA	NA	NA	0.008	UU	47	U	27	J	110	U	106		553
MW-512	11/03/20	0.20	U	NA	NA	NA	NA	0.009	UU	51	U	57	J	110	U	138		592
MW-513	10/23/08	0.702		0.50	U	0.50	U	3.81		245	U	564	JZ	490	U	932		647
MW-513	12/10/08	0.793		0.50	U	0.50	U	1.21		245	U	439		490	U	807		628
MW-513	02/25/09	0.5	U	NA		NA		NA		330		470		72.00	U	836		634
MW-513 (Duplicate)	02/25/09	5	U	NA		NA		NA		300		440		74.00	U	777		635
MW-513	04/22/09	0.5	U	NA		NA		NA		290		330		66	U	653		617
MW-513	06/24/09	0.5	U	NA		NA		NA		170		280		75	U	488		637
MW-513	08/20/09	0.5	U	NA		NA		NA		290		280		75	U	608		604
MW-513	10/27/09	0.5	U	NA		NA		NA		320		180		68	U	534		572
MW-513 (Duplicate)	10/27/09	5	U	NA		NA		NA		320		240		68	U	594		589
MW-513	01/20/10	NA		NA		NA		NA		300		210		67	U	544		585
MW-513	04/21/10	NA		NA		NA		NA		290		160		74	U	487		570
MW-513	07/21/10	NA		NA		NA		NA		360		140		67	U	534		555
MW-513	10/28/10	0.50	U	NA		NA		NA		270		150		74	U	457		570
MW-513 (Duplicate)	10/28/10	0.50	U	NA		NA		NA		290		160		67	U	484		571
MW-513	06/16/11	NA		NA		NA		NA		230		100		67	U	364		558
MW-513	12/15/11	0.3		NA		NA		NA		38		97		67	U	169		638
MW-513	06/29/12	NA		NA		NA		NA		62		59		75	U	159		581
MW-513	12/17/12	0.2	U	NA		NA		NA		28	U	65		66	U	112		639
MW-513	06/26/13	NA		NA		NA		NA		52		110		68	U	196		633
MW-513	12/18/13	0.2	U	NA		NA		NA		50		120		66	U	203		642
MW-513	06/17/14	NA		NA		NA		NA		47		72		67	U	153		608
MW-513	12/10/14	0.5	U	NA		NA		NA		52		50	U	66	U	110		547
MW-513	06/24/15	NA		NA		NA		NA		35		75		66	U	143		622
MW-513 (Duplicate)	06/24/15	NA		NA		NA		NA		45		50	U	65	U	103		550
MW-513	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	47	U	97		100	U	171		636
MW-513	07/25/17	0.5	U	NA		NA		NA		46	U	110		100	U	183		646
MW-513	03/21/18	0.2	U	NA		NA		NA		240		50	U	100	U	315		515
MW-513	06/28/18	0.5	U	NA		NA		NA		49	U	50	U	110	U	105	UU	549
MW-513	09/20/18	0.5	U	NA		NA		NA		46	HU	19	U	100	HU	83	UU	271
MW-513	11/29/18	0.5	U	NA		NA		NA		47	U	19	U	110	U	88	UU	521
MW-513	03/21/19	0.5	U	NA		NA		NA		46	U	19	U	100	U	83	UU	523
MW-513	06/17/19	0.5	U	NA		NA		NA		47	U	22	J	100	U	96		547
MW-513	09/18/19	0.2	U	NA		NA		NA		45	U	50	J	100	U	123		590
MW-513	12/09/19	0.2	U	NA		NA		NA		46	U	29	J	100	U	102		560
MW-513	03/10/20	0.2	U	NA		NA		NA		48	U	19	U	110	U	89	UU	521
MW-513	06/25/20	0.2	U	NA		NA		NA		47	U	39	J	100	U	113		575
MW-513	09/22/20	0.2	U	NA		NA		NA		50	U	52	J	110	U	132		587
MW-513	11/04/20	0.20	U	NA		NA		NA		52	U	19	UB	110	U	91	UU	487
MW-514	10/23/08	2.98		0.64		1.54		4.69		253		1020	JZ	490	U	1,518		668
MW-514	12/10/08	3.15		0.84		1.82		4.98		248	U	801		495	U	1,173		672
MW-514 (Duplicate)	12/10/08	3.40		0.82		1.89		4.95		245	U	831		490	U	1,199		676
MW-514	02/24/09	2.9		NA		NA		NA		710		830		75	U	1,578		623
MW-514	04/21/09	3.5		NA		NA		NA		370		680		69	U	1,085		654
MW-514	06/24/09	2		NA		NA		NA		280		510		70	U	825		651
MW-514	08/19/09	3.2		NA		NA		NA		290		520		73	U	847		650
MW-514 (Duplicate)	08/19/09	2.7		NA		NA		NA		270		450		70	U	755		644
MW-514	10/27/09	2.2		NA		NA		NA		400		400		66	U	833		610
MW-514	01/20/10	NA		NA		NA		NA		200		340		69	U	575		643
MW-514	04/21/10	NA		NA		NA		NA		340		270		71	U	646		593
MW-514	07/21/10	NA		NA		NA		NA		420		170		67	U	624		557
MW-514	10/27/10	1.5		NA		NA		NA		250		290		70	U	575		617
MW-514	06/16/11	NA		NA		NA		NA		230		170		67	U	434		586
MW-514	12/14/11	0.5		NA		NA		NA		39		150		67	U	223		669

Table 3-4
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 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)		
		B	T	E	X												
		CUL=16	--	--	--	CUL=0.05	--	--	--	--	--	see note 6					
MW-514	06/29/12	NA	NA	NA	NA	NA	U	42		97		67	U	173	634		
MW-514	12/17/12	0.5	NA	NA	NA	0.008	U	29	U	84		67	U	132	657		
MW-514 (Duplicate)	12/17/12	0.7	NA	NA	NA	0.008	U	34		92		66	U	159	639		
MW-514	06/26/13	NA	NA	NA	NA	NA	U	31		140		71	U	207	670		
MW-514	12/18/13	0.2	U	NA	NA	0.008	U	29	U	100		67	U	148	670		
MW-514	06/17/14	NA	NA	NA	NA	NA	U	43		76		66	U	152	615		
MW-514	12/11/14	0.2	U	NA	NA	0.008	U	33		50	U	69	U	93	556		
MW-514	06/24/15	NA	NA	NA	NA	NA	U	32		50	U	68	U	91	557		
MW-514 (Duplicate)	06/24/15	NA	NA	NA	NA	NA	U	29	U	50	U	69	U	74	UU	573	
MW-514	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	46	U	50	U	100	UU	553	
MW-514	07/27/17	0.5	U	NA	NA	0.008	U	47	U	50	U	110	U	104	UU	550	
MW-514	03/21/18	0.2	U	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553	
MW-514	06/28/18	0.5	U	NA	NA	0.008	U	49	U	50	U	110	U	105	UU	549	
MW-514	09/20/18	0.5	U	NA	NA	0.008	U	45	HU	19	U	100	HU	82	UU	272	
MW-514	11/29/18	0.5	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-514	03/21/19	0.5	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-514	06/18/19	0.5	U	NA	NA	0.008	U	140		19	U	100	U	200		509	
MW-514	09/19/19	0.2	U	NA	NA	0.008	U	45	U	37	J	100	U	110		573	
MW-514	12/09/19	0.2	U	NA	NA	0.008	U	49	U	38	J	110	U	118		569	
MW-514	03/10/20	0.2	U	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522	
MW-514	06/25/20	0.2	U	NA	NA	0.008	UU	47	U	37	J	110	U	116		568	
MW-514	09/22/20	0.2	U	NA	NA	0.008	UU	47	U	60	J	100	U	134		601	
MW-514	11/05/20	0.20	U	NA	NA	NA	R	--	R	34	J	--	R	--	--	--	
MW-515	10/22/08	1.86		1.35		1.00		4.47		248	U	575	JZ	495	U	947	648
MW-515 (Duplicate)	10/22/08	1.92		1.40		1.07		4.70		248	U	603	JZ	495	U	975	651
MW-515	12/10/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	100		485	U	464	544
MW-515	02/24/09	0.5	U	NA	NA	0.008	U	71		69		68	U	174		587	
MW-515	04/22/09	0.5	U	NA	NA	0.007	U	77		59		69	U	171		575	
MW-515	06/24/09	0.5	U	NA	NA	0.007	U	170		85		76	U	293		561	
MW-515	08/20/09	0.5	U	NA	NA	0.012	U	200		63		75	U	301		543	
MW-515 (Duplicate)	08/20/09	0.5	U	NA	NA	0.013	U	340		110		75	U	488		546	
MW-515	10/27/09	0.5	U	NA	NA	0.012	U	79		50	U	70	U	139		536	
MW-515	01/20/10	NA		NA	NA	NA	U	34		50	U	69	U	94		556	
MW-515	04/21/10	NA		NA	NA	NA	U	32		50	U	67	U	91		558	
MW-515	07/21/10	NA		NA	NA	NA	U	120		50	U	66	U	178		528	
MW-515	10/27/10	0.5	U	NA	NA	0.012	U	52		50	U	67	U	111		546	
MW-515	06/16/11	NA		NA	NA	NA	U	200		50	U	67	U	259		519	
MW-515	12/14/11	0.2	U	NA	NA	0.008	U	28	U	50	U	66	U	72	UU	575	
MW-515	06/29/12	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-515	12/17/12	0.2	U	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-515	06/27/13	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-515	12/18/13	0.2	U	NA	NA	0.008	U	30	U	50	U	70	U	75	UU	571	
MW-515	06/19/14	NA		NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-515	12/11/14	0.2	U	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-515	06/25/15	NA		NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-515	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	47	U	50	U	100	UU	553	
MW-515	07/25/17	0.5	U	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553	
MW-515	03/21/18	0.2	U	NA	NA	0.008	U	50	U	50	U	110	U	105	UU	549	
MW-515	06/28/18	0.5	U	NA	NA	0.008	U	47	U	50	U	110	U	104	UU	550	
MW-515	09/19/18	0.5	U	NA	NA	0.008	U	120		19	U	110	U	185		510	
MW-515	11/28/18	0.5	U	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-515 (Duplicate)	11/28/18	0.5	U	NA	NA	0.008	U	50	U	19	U	110	U	90	UU	521	
MW-515	03/21/19	0.5	U	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-515	06/17/19	0.5	U	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-515	09/18/19	0.2	U	NA	NA	0.008	U	46	U	37	J	100	U	110		570	
MW-515	12/09/19	0.2	U	NA	NA	0.008	U	47	U	37	J	100	U	111		572	
MW-515	03/09/20	0.2	U	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-515	06/22/20	Wasp nest in well box. Well neither gauged nor sampled. Nest Removed.															
MW-515	09/23/20	0.2	U	NA	NA	0.009	UU	48	U	25	J	110	U	104		550	
MW-515	11/05/20	0.20	U	NA	NA	0.010	UU	--	R	36	J	--	R	--	--	--	--
MW-516	10/22/08	0.779		0.711		0.50	U	3.96		248	U	429	JZ	495	U	801	626
MW-516	12/10/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	114		485	U	478	549

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 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B	T	E	X													
		CUL=16	--	--	--	CUL=0.05	--	--	--	--	see note 6							
MW-516	02/24/09	0.5	U	NA	NA	NA	0.008	U	30	U	50	U	70	U	75	UU	571	
MW-516	04/22/09	0.5	U	NA	NA	NA	0.008	U	31	U	50	U	73	U	77	UU	569	
MW-516	06/24/09	0.5	U	NA	NA	NA	0.007	U	210		50	U	69	U	270		518	
MW-516	08/20/09	0.5	U	NA	NA	NA	0.013	U	260		50	U	75	U	323		515	
MW-516	10/27/09	0.5	U	NA	NA	NA	0.012	U	140		50	U	67	U	199		525	
MW-516	01/20/10	NA		NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-516	04/21/10	NA		NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571	
MW-516	07/21/10	NA		NA	NA	NA	NA	U	150		50	U	67	U	209		524	
MW-516	10/27/10	0.50	U	NA	NA	NA	0.012	U	49		50	U	67	U	108		548	
MW-516 (Duplicate)	10/27/10	0.5	U	NA	NA	NA	0.012	U	40		50	U	66	U	98		553	
MW-516	06/16/11	NA		NA	NA	NA	NA	U	170		50	U	67	U	229		521	
MW-516	12/14/11	0.2	U	NA	NA	NA	0.007	U	29	U	50	U	69	U	74	UU	573	
MW-516	06/29/12	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-516	12/17/12	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-516	06/27/13	NA		NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572	
MW-516	12/18/13	0.2	U	NA	NA	NA	0.008	U	31	U	50	U	72	U	77	UU	570	
MW-516	06/19/14	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-516 (Duplicate)	06/19/14	NA		NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-516	12/11/14	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-516	06/25/15	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-516	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	47	U	50	U	100	U	99	UU	553
MW-516	07/25/17	0.5	U	NA	NA	NA	0.008	U	45	U	50	U	100	U	98	UU	553	
MW-516 (Duplicate)	07/25/17	0.5	U	NA	NA	NA	0.008	U	46	U	50	U	100	U	98	UU	553	
MW-516	03/21/18	0.2	U	NA	NA	NA	0.008	U	48	U	50	U	110	U	104	UU	550	
MW-516	06/28/18	0.5	U	NA	NA	NA	0.008	U	48	U	50	U	110	U	104	UU	550	
MW-516	09/19/18	0.5	U	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-516	11/29/18	0.5	U	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-516	03/21/19	0.5	U	NA	NA	NA	0.008	U	46	U	19	U	100	U	83	UU	523	
MW-516	06/17/19	0.5	U	NA	NA	NA	0.008	U	48	U	19	U	110	U	89	UU	521	
MW-516	09/18/19	0.2	U	NA	NA	NA	0.008	U	45	U	19	U	100	U	82	UU	523	
MW-516	12/09/19	0.2	U	NA	NA	NA	0.008	U	51	U	19	U	110	U	90	UU	521	
MW-516	03/09/20	0.2	U	NA	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522	
MW-516	06/25/20	0.2	U	NA	NA	NA	0.010	UU	47	U	19	U	100	U	83	UU	522	
MW-516	09/23/20	0.2	U	NA	NA	NA	0.009	UU	46	U	19	U	100	U	83	UU	523	
MW-516	11/05/20	0.20	U	NA	NA	NA	0.009	UU	--	R	19	U	--	R	--		--	
MW-517	10/22/08	1.24		0.50	U	0.884		1.56		248	U	275	JZ	495	U	647	595	
MW-517	12/10/08	0.50	U	0.50	U	0.50	U	1.00	U	240	U	130		481	U	491	555	
MW-517	02/24/09	0.5	U	NA	NA	NA	0.008	U	50		50	U	72	U	111		546	
MW-517	04/22/09	0.5	U	NA	NA	NA	0.008	U	100		50	U	71	U	161		531	
MW-517	06/24/09	0.5	U	NA	NA	NA	0.007	U	460		50	U	86		571		508	
MW-517	08/20/09	0.5	U	NA	NA	NA	0.012	U	230		120		69	U	385		566	
MW-517	10/27/09	0.5	U	NA	NA	NA	0.012	U	160		54		73	U	251		544	
MW-517	01/20/10	NA		NA	NA	NA	NA	U	40		50	U	69	U	100		552	
MW-517	04/21/10	NA		NA	NA	NA	NA	U	75		50	U	67	U	134		538	
MW-517 (Duplicate)	04/21/10	NA		NA	NA	NA	NA	U	94		50	U	70	U	154		532	
MW-517	07/20/10	NA		NA	NA	NA	NA	U	200		50	U	66	U	258		519	
MW-517	10/27/10	0.5	U	NA	NA	NA	0.012	U	77		50	U	72	U	138		536	
MW-517	06/16/11	NA		NA	NA	NA	NA	U	89		50	U	67	U	148		534	
MW-517	12/14/11	0.2	U	NA	NA	NA	0.007	U	28	U	50	U	66	U	72	UU	575	
MW-517	06/29/12	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-517	12/17/12	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-517	06/27/13	NA		NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-517	12/18/13	0.2	U	NA	NA	NA	0.008	U	30	U	50	U	70	U	75	UU	571	
MW-517	06/19/14	NA		NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575	
MW-517	12/11/14	0.2	U	NA	NA	NA	0.008	U	29	U	50	U	67	U	73	UU	574	
MW-517	06/25/15	NA		NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574	
MW-517	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	49	U	50	U	110	U	105	UU	549
MW-517	07/25/17	0.5	U	NA	NA	NA	0.008	U	46	U	61		100	U	134		603	
MW-517	03/21/18	0.2	U	NA	NA	NA	0.008	U	49	U	50	U	110	U	105	UU	549	
MW-517	06/28/18	0.5	U	NA	NA	NA	0.008	U	47	U	50	U	110	U	104	UU	550	
MW-517	09/19/18	0.5	U	NA	NA	NA	0.008	U	47	U	19	U	100	U	83	UU	522	

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B	T	E	X													
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6				
MW-517	11/29/18	0.5	U	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523		
MW-517	03/21/19	0.5	U	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523		
MW-517 (Duplicate)	03/21/19	0.5	U	NA	NA	NA	NA	62	J	19	U	100	U	122	UU	515		
MW-517	06/17/19	0.5	U	NA	NA	NA	NA	47	U	19	U	100	U	83	UU	522		
MW-517	09/18/19	0.2	U	NA	NA	NA	NA	46	U	31	J	100	U	104	UU	563		
MW-517	12/09/19	0.2	U	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523		
MW-517	03/09/20	0.2	U	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523		
MW-517	06/25/20	0.2	U	NA	NA	NA	NA	46	UU	19	U	100	U	83	UU	523		
MW-517	09/23/20	0.2	U	NA	NA	NA	NA	48	UU	19	U	110	U	89	UU	521		
MW-517	11/06/20	0.20	U	NA	NA	NA	NA	50	U	20	J	110	U	100	UU	541		
MW-518*	10/22/08	0.503	U	0.50	U	0.50	U	1.92	U	248	U	770	JZ	495	U	1,142	669	
MW-518*	12/10/08	0.50	U	0.50	U	0.50	U	2.12	U	245	U	796	JZ	490	U	1,164	673	
MW-518*	02/25/09	0.5	U	NA	NA	NA	NA	NA	U	450	U	880	U	73	U	1,403	654	
MW-518*	04/22/09	0.5	U	NA	NA	NA	NA	NA	U	480	U	650	U	72	U	1,202	627	
MW-518*	06/25/09	0.5	U	NA	NA	NA	NA	NA	U	200	U	440	U	70	U	675	662	
MW-518*	08/20/09	0.5	U	NA	NA	NA	NA	NA	U	300	U	730	U	71	U	1,066	673	
MW-518*	10/30/09	0.5	U	NA	NA	NA	NA	NA	U	310	U	660	U	74	U	1,007	663	
MW-518*	01/20/10	NA	U	NA	NA	NA	NA	NA	U	230	U	660	U	67	U	924	683	
MW-518*	04/21/10	NA	U	NA	NA	NA	NA	NA	U	240	U	630	U	75	U	908	676	
MW-518*	07/21/10	NA	U	NA	NA	NA	NA	NA	U	310	U	350	U	73	U	697	616	
MW-518* (Duplicate)	07/21/10	NA	U	NA	NA	NA	NA	NA	U	400	U	270	U	78	U	709	583	
MW-518*	10/28/10	0.5	U	NA	NA	NA	NA	NA	U	290	U	600	U	67	U	924	661	
MW-518*	03/23/11	NA	U	NA	NA	NA	NA	NA	U	390	U	330	U	68	U	754	598	
MW-518*	06/16/11	NA	U	NA	NA	NA	NA	NA	U	200	U	140	U	67	U	374	582	
MW-518*	09/27/11	NA	U	NA	NA	NA	NA	NA	U	66	U	230	U	68	U	330	677	
MW-518*	12/14/11	0.2	U	NA	NA	NA	NA	NA	U	40	U	440	U	67	U	514	737	
MW-518*	03/28/12	NA	U	NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575
MW-518*	06/29/12	NA	U	NA	NA	NA	NA	NA	U	29	U	93	U	69	U	142	663	
MW-518*	09/27/12	NA	U	NA	NA	NA	NA	NA	U	59	U	240	U	68	U	333	685	
MW-518*	12/17/12	0.2	U	NA	NA	NA	NA	NA	U	29	U	180	U	69	U	229	709	
MW-518*	03/27/13	NA	U	NA	NA	NA	NA	NA	U	48	U	510	U	66	U	591	739	
MW-518*	06/27/13	NA	U	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574
MW-518*	09/25/13	NA	U	NA	NA	NA	NA	NA	U	79	U	50	U	69	U	99	UU	552
MW-518*	12/19/13	0.2	U	NA	NA	NA	NA	NA	U	78	U	860	U	71	U	974	748	
MW-518*	03/28/14	NA	U	NA	NA	NA	NA	NA	U	29	U	110	U	68	U	159	676	
MW-518*	06/18/14	NA	U	NA	NA	NA	NA	NA	U	28	U	63	U	66	U	110	637	
MW-518* (Duplicate)	06/18/14	NA	U	NA	NA	NA	NA	NA	U	28	U	62	U	66	U	109	636	
MW-518*	10/01/14	NA	U	NA	NA	NA	NA	NA	U	68	U	260	U	72	U	364	683	
MW-518*	12/11/14	0.2	U	NA	NA	NA	NA	NA	U	43	U	290	U	66	U	366	711	
MW-518*	03/25/15	NA	U	NA	NA	NA	NA	NA	U	39	U	390	U	67	U	463	731	
MW-518*	06/25/15	NA	U	NA	NA	NA	NA	NA	U	59	U	600	U	66	U	692	741	
MW-518*	10/25/16	0.5	U	0.5	U	0.5	U	1.5	U	46	U	990	U	100	U	1,063	768	
MW-518*	07/25/17	0.5	U	NA	NA	NA	NA	NA	U	46	U	190	U	100	U	263	686	
MW-518*	03/21/18	0.2	U	NA	NA	NA	NA	NA	U	48	U	220	U	110	U	299	691	
MW-518*	06/28/18	0.5	U	NA	NA	NA	NA	NA	U	47	U	690	U	100	U	764	756	
MW-518* (Duplicate)	06/28/18	0.5	U	NA	NA	NA	NA	NA	U	47	U	630	U	100	U	704	753	
MW-518*	09/19/18	0.5	U	NA	NA	NA	NA	NA	U	47	U	370	U	100	U	444	728	
MW-518*	11/28/18	0.5	U	NA	NA	NA	NA	NA	U	47	U	840	U	110	U	919	761	
MW-518*	02/07/19	0.0	U	NA	NA	NA	NA	NA	U	46	U	340	U	100	U	413	723	
MW-518*	03/20/19	0.0	U	NA	NA	NA	NA	NA	U	47	U	480	U	100	U	554	741	
MW-518*	06/18/19	0.5	U	NA	NA	NA	NA	NA	U	290	U	760	U	100	U	1,100	675	
MW-518*	09/18/19	0.2	U	NA	NA	NA	NA	NA	U	46	U	520	U	100	U	593	745	
MW-518* (Duplicate)	09/18/19	0.2	U	NA	NA	NA	NA	NA	U	47	U	490	U	100	U	564	742	
MW-518*	12/09/19	0.2	U	NA	NA	NA	NA	NA	U	52	U	820	U	120	U	906	757	
MW-518* (Duplicate)	12/09/19	0.2	U	NA	NA	NA	NA	NA	U	50	U	840	U	110	U	920	760	
MW-518*	03/09/20	0.2	U	NA	NA	NA	NA	NA	U	45	U	430	U	100	U	503	736	
MW-518* (Duplicate)	03/09/20	0.2	U	NA	NA	NA	NA	NA	U	46	U	440	U	100	U	513	737	
MW-518*	06/24/20	0.2	U	NA	NA	NA	NA	NA	UU	87	J	930	U	110	U	1,072	741	
MW-518* (Duplicate)	06/24/20	0.2	U	NA	NA	NA	NA	NA	UU	98	J	950	U	110	U	1,103	739	
MW-518*	09/23/20	0.2	U	NA	NA	NA	NA	NA	UU	48	U	590	U	110	U	669	747	
MW-518* (Duplicate)	09/23/20	0.2	U	NA	NA	NA	NA	NA	UU	47	U	560	U	100	U	634	748	
MW-518*	11/05/20	0.20	U	NA	NA	NA	NA	NA	UU	--	R	720	U	--	R	--	--	

Table 3-4
Summary of Groundwater Analytical Data
Petroleum and Polynuclear Aromatic Hydrocarbons
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)								Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)			
		B		T		E		X										
		CUL=16	U	--	U	--	U	--	U									
MW-518* (Duplicate)	11/05/20	0.20	U	NA		NA		NA		0.008	UU	56	J	760	--	R	--	--
MW-519	10/22/08	0.5	U	0.5	U	0.5	U	1.00	U	0.008	U	248	U	80	495	U	451	536
MW-519 (Duplicate)	10/22/08	5	U	5	U	5	U	1.00	U	0.007	U	248	U	84	495	U	455	537
MW-519	12/09/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	250	U	64.1	500	U	439	529
MW-519	02/24/09	0.5	U	NA		NA		NA		0.008	U	83	U	50	71	U	144	535
MW-519	04/21/09	0.5	U	NA		NA		NA		0.008	U	150	U	50	74	U	212	523
MW-519	06/24/09	0.5	U	NA		NA		NA		0.007	U	220	U	50	70	U	280	517
MW-519	08/18/09	0.5	U	NA		NA		NA		0.013	U	290	U	50	75	U	353	514
MW-519 (Duplicate)	08/18/09	0.5	U	NA		NA		NA		0.119	U	250	U	50	72	U	311	516
MW-519	10/27/09	0.5	U	NA		NA		NA		0.013	U	58	U	50	66	U	116	544
MW-519	01/19/10	NA		NA		NA		NA		NA	U	170	U	50	67	U	229	521
MW-519	04/21/10	NA		NA		NA		NA		NA	U	82	U	50	71	U	143	535
MW-519	07/20/10	NA		NA		NA		NA		NA	U	290	U	50	67	U	349	514
MW-519	10/26/10	0.50	U	NA		NA		NA		0.012	U	43	U	50	73	U	105	549
MW-519 (Duplicate)	10/26/10	0.50	U	NA		NA		NA		0.012	U	54	U	50	79	U	119	543
MW-519	06/15/11	NA		NA		NA		NA		NA	U	260	U	50	68	U	319	515
MW-519	12/14/11	0.2	U	NA		NA		NA		0.008	U	29	U	50	67	U	73	UU
MW-519	06/28/12	NA		NA		NA		NA		NA	U	30	U	50	71	U	76	UU
MW-519	12/17/12	0.2	U	NA		NA		NA		0.008	U	28	U	50	66	U	72	UU
MW-519	06/25/13	NA		NA		NA		NA		NA	U	29	U	50	68	U	74	UU
MW-519	12/17/13	0.2	U	NA		NA		NA		0.008	U	28	U	50	66	U	72	UU
MW-519	06/18/14	NA		NA		NA		NA		NA	U	29	U	50	67	U	73	UU
MW-519	12/10/14	0.2	U	NA		NA		NA		0.008	U	28	U	50	65	U	72	UU
MW-519	06/24/15	NA		NA		NA		NA		NA	U	29	U	50	67	U	73	UU
MW-519	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	47	U	50	110	U	104	UU
MW-519	07/25/17	0.5	U	NA		NA		NA		0.008	U	45	U	50	100	U	98	UU
MW-519	03/22/18	0.5	U	NA		NA		NA		0.008	U	45	U	50	100	U	98	UU
MW-519 (Duplicate)	03/22/18	0.5	U	NA		NA		NA		0.008	U	45	U	50	100	U	98	UU
MW-519	06/27/18	0.5	U	NA		NA		NA		0.008	U	46	U	50	100	U	98	UU
MW-519	09/18/18	0.5	U	NA		NA		NA		0.008	U	47	U	19	100	U	83	UU
MW-519	11/29/18	0.5	U	NA		NA		NA		0.008	U	46	U	19	100	U	83	UU
MW-519	03/21/19	0.5	U	NA		NA		NA		0.008	U	87	J	19	100	U	147	512
MW-519	06/19/19	0.5	U	NA		NA		NA		0.008	U	52	U	19	120	U	96	UU
MW-519	09/19/19	0.2	U	NA		NA		NA		0.008	U	46	U	19	100	U	83	UU
MW-519	12/11/19	0.2	U	NA		NA		NA		0.008	U	120	U	19	110	U	185	510
MW-519	03/09/20	0.2	U	NA		NA		NA		0.008	U	47	U	19	100	U	83	UU
MW-519	06/24/20	0.2	U	NA		NA		NA		0.008	UU	47	U	19	110	U	88	UU
MW-519	09/23/20	0.2	U	NA		NA		NA		0.008	UU	47	U	19	100	U	83	UU
MW-519	11/05/20	0.20	U	NA		NA		NA		0.009	UU	--	R	19	--	R	--	--
MW-520	10/21/08	1.45		0.50	U	0.50	U	1.00	U	0.008	U	250	U	356	500	U	731	612
MW-520	12/09/08	3.77		0.50	U	0.50	U	1.00	U	0.008	U	243	U	125	485	U	489	553
MW-520	02/23/09	1.6		NA		NA		NA		0.008	U	160		110	76	U	308	577
MW-520	04/22/09	7.6		NA		NA		NA		0.007	U	110		50	66	U	168	530
MW-520 (Duplicate)	04/22/09	7.3		NA		NA		NA		0.007	U	110		50	67	U	169	529
MW-520	06/24/09	0.5		NA		NA		NA		0.007	U	180		50	69	U	240	520
MW-520	08/18/09	0.5	U	NA		NA		NA		0.012	U	140		50	72	U	201	524
MW-520	10/27/09	0.5	U	NA		NA		NA		0.012	U	130		50	73	U	192	526
MW-520	01/19/10	NA		NA		NA		NA		NA	U	30	U	50	70	U	75	UU
MW-520	04/20/10	NA		NA		NA		NA		NA	U	52		50	68	U	111	546
MW-520	07/20/10	NA		NA		NA		NA		NA	U	320		50	67	U	379	513
MW-520	10/27/10	0.5	U	NA		NA		NA		0.012	U	110		50	66	U	168	530
MW-520	06/15/11	NA		NA		NA		NA		NA	U	120		50	67	U	179	528
MW-520	12/14/11	0.2	U	NA		NA		NA		0.007	U	29	U	50	67	U	73	UU
MW-520	06/28/12	NA		NA		NA		NA		NA	U	29	U	50	67	U	73	UU
MW-520	12/14/12	0.2	U	NA		NA		NA		0.008	U	28		50	110	U	163	531
MW-520	06/25/13	NA		NA		NA		NA		NA	U	29	U	62	67	U	110	634
MW-520 (Duplicate)	06/25/13	NA		NA		NA		NA		NA	U	30	U	50	70	U	75	UU
MW-520	12/17/13	0.2	U	NA		NA		NA		0.008	U	30	U	50	70	U	75	UU
MW-520	06/18/14	NA		NA		NA		NA		NA	U	29	U	50	67	U	73	UU
MW-520	12/10/14	0.2	U	NA		NA		NA		0.008	U	28	U	50	66	U	72	UU
MW-520	06/24/15	NA		NA		NA		NA		NA	U	28	U	50	65	U	72	UU

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Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)								
		B	T	E	X															
		CUL=16	--	--	--	CUL=0.05		--	--	--	see note 6	--								
MW-520	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	47	U	50	U	100	U	99	UU	553
MW-520	07/25/17	0.5	U	NA		NA		NA		0.008	U	46	U	50	U	100	U	98	UU	553
MW-520	03/20/18	0.2	U	NA		NA		NA		0.008	U	47	U	50	U	110	U	104	UU	550
MW-520	06/28/18	0.5	U	NA		NA		NA		0.008	U	48	U	50	U	110	U	104	UU	550
MW-520	09/18/18	0.5	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-520	11/29/18	0.5	U	NA		NA		NA		0.008	U	45	U	19	U	100	U	82	UU	523
MW-520	03/22/19	0.5	U	NA		NA		NA		0.008	U	47	U	19	U	100	U	83	UU	522
MW-520	06/19/19	0.5	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-520	09/18/19	0.2	U	NA		NA		NA		0.008	U	46	U	22	J	100	U	95		548
MW-520	12/12/19	0.2	U	NA		NA		NA		0.008	U	45	U	19	U	100	U	82	UU	523
MW-520	03/09/20	0.2	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-520	06/24/20	0.2	U	NA		NA		NA		0.009	UU	48	U	19	U	110	U	89	UU	521
MW-520	09/22/20	0.2	U	NA		NA		NA		0.009	UU	48	U	19	U	110	U	89	UU	521
MW-520	11/05/20	0.20	U	NA		NA		NA		0.009	UU	--	R	19	U	--	R	--		--
MW-521	10/21/08	0.50	U	0.50	U	0.50	U	1.00	U	0.007	U	245	U	57.9		490	U	425		527
MW-521	12/09/08	0.50	U	0.50	U	0.50	U	1.00	U	0.008	U	250	U	98.4		500	U	473		542
MW-521	02/23/09	1.7		NA		NA		NA		0.008	U	90		50	U	78	U	154		532
MW-521	04/21/09	0.5	U	NA		NA		NA		0.008	U	31	U	50	U	73	U	77	UU	569
MW-521	06/23/09	0.5	U	NA		NA		NA		0.008	U	47		50	U	71	U	108		548
MW-521	08/19/09	0.5	U	NA		NA		NA		0.012	U	45		50	U	71	U	106		549
MW-521	10/26/09	0.5	U	NA		NA		NA		0.012	U	120		50	U	69	U	180		528
MW-521 (Duplicate)	10/26/09	0.5	U	NA		NA		NA		0.012	U	78		50	U	74	U	140		536
MW-521	01/19/10	NA		NA		NA		NA		NA	U	30	U	50	U	70	U	75	UU	571
MW-521	04/20/10	NA		NA		NA		NA		NA	U	31	U	50	U	73	U	77	UU	569
MW-521	07/20/10	NA		NA		NA		NA		NA	U	70		50	U	67	U	129		539
MW-521	10/27/10	0.5	U	NA		NA		NA		0.013	U	77		50	U	72	U	138		536
MW-521	06/15/11	NA		NA		NA		NA		NA	U	47		50	U	67	U	106		549
MW-521	12/14/11	0.2	U	NA		NA		NA		0.007	U	29	U	50	U	67	U	73	UU	574
MW-521	06/28/12	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-521	12/17/12	0.2	U	NA		NA		NA		0.008	U	28	U	50	U	66	U	72	UU	575
MW-521	06/25/13	NA		NA		NA		NA		NA	U	29	U	50	U	69	U	74	UU	573
MW-521	12/17/13	0.2	U	NA		NA		NA		0.008	U	29	U	50	U	67	U	73	UU	574
MW-521	06/18/14	NA		NA		NA		NA		NA	U	28	U	50	U	66	U	72	UU	575
MW-521	12/10/14	0.3		NA		NA		NA		0.008	U	28	U	50	U	66	U	72	UU	575
MW-521	06/24/15	NA		NA		NA		NA		NA	U	29	U	50	U	68	U	74	UU	573
MW-521	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	0.008	U	48	U	50	U	110	U	104	UU	550
MW-521	07/25/17	0.5	U	NA		NA		NA		0.008	U	45	U	50	U	100	U	98	UU	553
MW-521	03/20/18	0.2	U	NA		NA		NA		0.008	U	46	U	50	U	100	U	98	UU	553
MW-521	06/28/18	0.5	U	NA		NA		NA		0.008	U	48	U	50	U	110	U	104	UU	550
MW-521	09/18/18	0.5	U	NA		NA		NA		0.008	U	46	U	19	U	100	U	83	UU	523
MW-521	11/30/18	0.5	U	NA		NA		NA		0.009	U	46	U	19	U	100	U	83	UU	523
MW-521	03/22/19	0.5	U	NA		NA		NA		0.008	U	75	J	19	U	100	U	135		514
MW-521 (Duplicate)	03/22/19	0.5	U	NA		NA		NA		0.008	U	47	U	19	U	110	U	88	UU	521
MW-521	06/19/19	0.5	U	NA		NA		NA		0.008	U	47	U	19	U	100	U	83	UU	522
MW-521	09/18/19	0.2	U	NA		NA		NA		0.008	U	47	U	19	U	100	U	83	UU	522
MW-521	12/11/19	0.2	U	NA		NA		NA		0.008	U	48	U	19	U	110	U	89	UU	521
MW-521	03/09/20	0.2	U	NA		NA		NA		0.008	U	47	U	19	U	100	U	83	UU	522
MW-521	06/25/20	0.2	U	NA		NA		NA		0.235		46	U	19	U	100	U	83	UU	523
MW-521	09/22/20	0.2	U	NA		NA		NA		0.008	UU	47	U	19	U	100	U	83	UU	522
MW-521 (Duplicate)	09/22/20	0.2	U	NA		NA		NA		0.008	UU	48	U	19	U	110	U	89	UU	521
MW-521	11/06/20	0.20	U	NA		NA		NA		0.009	UU	47	U	19	U	110	U	88	UU	521
MW-522*	10/21/08	1.46		0.50	U	0.50	U	1.41		0.036	U	250	U	534	JZ	500	U	909		641
MW-522*	12/09/08	0.782		0.5	U	0.5	U	1.00		0.007	U	245	U	183		490	U	551		571
MW-522* (Duplicate)	12/09/08	0.805		5	U	5	U	1.00		0.008	U	245	U	186		490	U	554		572
MW-522*	02/23/09	0.5	U	NA		NA		NA		0.007	U	490		160		71	U	686		548
MW-522*	04/21/09	0.5	U	NA		NA		NA		0.008	U	620		62		97		779		515
MW-522*	06/23/09	0.5	U	NA		NA		NA		0.007	U	330		100		67	U	464		544
MW-522*	08/18/09	0.5		NA		NA		NA		0.012	U	300		94		67	U	428		545
MW-522*	10/26/09	0.5		NA		NA		NA		0.012	U	650		50	U	280		955		505
MW-522*	01/19/10	NA		NA		NA		NA		NA	U	39		50	U	66	U	97		553
MW-522*	04/20/10	NA		NA		NA		NA		NA	U	220		50	U	81	U	286		517
MW-522*	07/20/10	NA		NA		NA		NA		NA	U	470		50	U	76	U	533		509

Table 3-4
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 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)
		B	T	E	X							
		CUL=16	--	--	--	CUL=0.05	--					
MW-522*	10/26/10	0.5	U	NA	NA	NA	NA	260	50	66	318	515
MW-522*	03/22/11	NA		NA	NA	NA	NA	150	50	66	208	524
MW-522*	06/15/11	NA		NA	NA	NA	NA	380	50	72	441	511
MW-522*	09/27/11	NA		NA	NA	NA	NA	29	50	67	88	560
MW-522* (Duplicate)	09/27/11	NA		NA	NA	NA	NA	42	50	66	100	552
MW-522*	12/14/11	0.2	U	NA	NA	NA	NA	29	50	67	73	UU
MW-522*	03/28/12	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522*	06/28/12	NA		NA	NA	NA	NA	28	50	66	72	UU
MW-522*	09/26/12	NA		NA	NA	NA	NA	29	50	68	74	UU
MW-522*	12/14/12	0.2	U	NA	NA	NA	NA	41	50	140	206	524
MW-522*	03/26/13	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522* (Duplicate)	03/26/13	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522*	06/25/13	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522*	09/25/13	NA		NA	NA	NA	NA	36	50	70	78	UU
MW-522*	12/17/13	0.2	U	NA	NA	NA	NA	31	50	72	77	UU
MW-522*	03/26/14	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522*	06/18/14	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-522*	10/01/14	NA		NA	NA	NA	NA	30	50	71	76	UU
MW-522* (Duplicate)	10/01/14	NA		NA	NA	NA	NA	30	50	70	75	UU
MW-522*	12/10/14	0.3		NA	NA	NA	NA	28	50	66	72	UU
MW-522*	03/26/15	NA		NA	NA	NA	NA	30	50	69	75	UU
MW-522* (Duplicate)	03/26/15	NA		NA	NA	NA	NA	29	50	69	74	UU
MW-522*	06/24/15	NA		NA	NA	NA	NA	28	50	66	72	UU
MW-522*	10/24/16	0.5	U	0.5	U	0.5	U	47	50	100	99	UU
MW-522*	07/25/17	0.5	U	NA	NA	NA	NA	80	50	700	805	506
MW-522*	03/20/18	0.2	U	NA	NA	NA	NA	46	50	100	98	UU
MW-522*	06/28/18	0.5	U	NA	NA	NA	NA	50	50	110	105	UU
MW-522*	09/18/18	0.5	U	NA	NA	NA	NA	48	19	110	89	UU
MW-522*	11/29/18	0.5	U	NA	NA	NA	NA	50	19	110	90	UU
MW-522*	03/21/19	0.5	U	NA	NA	NA	NA	190	19	100	250	507
MW-522*	06/18/19	0.5	U	NA	NA	NA	NA	510	19	120	580	503
MW-522*	09/17/19	0.2	U	NA	NA	NA	NA	61	20	140	121	533
MW-522*	12/12/19	0.2	U	NA	NA	NA	NA	47	19	170	203	509
MW-522* (Duplicate)	12/12/19	0.2	U	NA	NA	NA	NA	45	19	100	82	UU
MW-522*	03/09/20	0.2	U	NA	NA	NA	NA	46	19	100	83	UU
MW-522*	06/30/20	0.2	U	NA	NA	NA	NA	46	110	240	373	562
MW-522*	09/23/20	0.2	U	NA	NA	NA	NA	47	19	100	83	UU
MW-522*	11/06/20	0.20	U	NA	NA	NA	NA	48	19	110	89	UU
MW-523*	10/21/08	0.50	U	0.50	U	0.50	U	245	63	490	431	529
MW-523*	12/09/08	0.50	U	0.50	U	0.50	U	248	50	495	397	UU
MW-523*	02/23/09	0.5	U	NA	NA	NA	NA	32	50	68	91	557
MW-523*	04/21/09	0.5	U	NA	NA	NA	NA	30	50	69	75	UU
MW-523*	06/23/09	0.5	U	NA	NA	NA	NA	39	50	68	98	553
MW-523* (Duplicate)	06/23/09	0.5	U	NA	NA	NA	NA	78	50	68	137	537
MW-523*	08/18/09	0.5	U	NA	NA	NA	NA	140	50	66	198	525
MW-523*	10/26/09	0.5	U	NA	NA	NA	NA	120	50	66	178	528
MW-523*	01/19/10	NA		NA	NA	NA	NA	32	50	69	92	557
MW-523*	04/20/10	NA		NA	NA	NA	NA	35	50	83	84	UU
MW-523*	07/20/10	NA		NA	NA	NA	NA	61	50	80	126	540
MW-523*	10/26/10	0.5	U	NA	NA	NA	NA	160	50	74	222	522
MW-523*	03/22/11	NA		NA	NA	NA	NA	28	50	66	72	UU
MW-523*	06/15/11	NA		NA	NA	NA	NA	73	50	67	132	538
MW-523*	09/27/11	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-523*	12/13/11	0.2	U	NA	NA	NA	NA	28	50	66	72	UU
MW-523*	03/28/12	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-523*	06/28/12	NA		NA	NA	NA	NA	28	50	66	72	UU
MW-523*	09/26/12	NA		NA	NA	NA	NA	29	50	67	73	UU
MW-523* (Duplicate)	09/26/12	NA		NA	NA	NA	NA	31	50	71	76	UU
MW-523*	12/14/12	0.2	U	NA	NA	NA	NA	30	50	71	76	UU
MW-523*	03/26/13	NA		NA	NA	NA	NA	29	50	69	74	UU

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 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)		Diesel ³ (µg/L)		Gasoline ⁴ (µg/L)		Heavy Oil ³ (µg/L)		TPH ⁵ (µg/L)		TPH CUL ⁶ (µg/L)		
		B	T	E	X													
		CUL=16	--	--	--	CUL=0.05		--		--		--		see note 6				
MW-523*	06/25/13	NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-523*	09/25/13	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-523*	12/17/13	0.2	NA	NA	NA	0.008	U	30	U	50	U	160	U	200	UU	525		
MW-523*	03/27/14	NA	NA	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-523* (Duplicate)	03/27/14	NA	NA	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571		
MW-523*	06/18/14	NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-523*	09/30/14	NA	NA	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572		
MW-523*	12/10/14	0.3	NA	NA	NA	0.008	U	30	U	50	U	69	U	75	UU	572		
MW-523*	03/25/15	NA	NA	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-523*	06/23/15	NA	NA	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575		
MW-524*	10/21/08	0.50	U	0.50	U	0.50	U	1.00	U	240	U	50	U	481	U	386	UU	512
MW-524*	12/09/08	0.50	U	0.50	U	0.50	U	1.00	U	243	U	50	U	485	U	389	UU	512
MW-524*	02/23/09	0.5	U	NA	NA	NA	U	32	U	50	U	74	U	78	UU	568		
MW-524*	04/21/09	0.5	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	06/23/09	0.5	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	08/18/09	0.5	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	10/26/09	0.5	U	NA	NA	NA	U	0.012	U	270	U	150	U	445	UU	511		
MW-524*	01/19/10	NA	U	NA	NA	NA	U	30	U	50	U	71	U	76	UU	571		
MW-524*	04/20/10	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575		
MW-524*	07/20/10	NA	U	NA	NA	NA	U	32	U	50	U	75	U	79	UU	568		
MW-524*	10/26/10	0.5	U	NA	NA	NA	U	0.012	U	28	U	50	U	66	U	72	UU	575
MW-524*	03/22/11	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575		
MW-524*	06/17/11	NA	U	NA	NA	NA	U	36	U	50	U	67	U	95	UU	555		
MW-524*	09/27/11	NA	U	NA	NA	NA	U	29	U	50	U	67.0	U	73	UU	574		
MW-524*	12/13/11	0.2	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-524*	03/28/12	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	06/28/12	NA	U	NA	NA	NA	U	30	U	50	U	70	U	75	UU	571		
MW-524*	09/26/12	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	12/14/12	0.2	U	NA	NA	NA	U	0.008	U	28	U	66	U	72	UU	575		
MW-524* (Duplicate)	12/14/12	0.2	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	03/26/13	NA	U	NA	NA	NA	U	32	U	50	U	74	U	78	UU	568		
MW-524*	06/25/13	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-524*	09/24/13	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575		
MW-524*	06/25/13	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-524*	12/17/13	0.2	U	NA	NA	NA	U	0.008	U	28	U	66	U	72	UU	575		
MW-524*	03/28/14	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	06/18/14	NA	U	NA	NA	NA	U	29	U	50	U	67	U	73	UU	574		
MW-524*	09/30/14	NA	U	NA	NA	NA	U	30	U	50	U	69	U	75	UU	572		
MW-524*	12/09/14	0.2	U	NA	NA	NA	U	0.008	U	31	U	71	U	76	UU	570		
MW-524*	03/25/15	NA	U	NA	NA	NA	U	29	U	50	U	68	U	74	UU	573		
MW-524*	06/23/15	NA	U	NA	NA	NA	U	28	U	50	U	66	U	72	UU	575		
MW-525	06/29/12	NA		NA		NA	U	330		13,000		66	U	13,363		787		
MW-525 (Duplicate)	06/29/12	NA		NA		NA	U	360		11,000		68	U	11,394		784		
MW-525	12/14/12	5,900		NA		NA	U	0.012		23,000		72	U	23,416		792		
MW-525	06/26/13	980		NA		NA	U	150		5,800		68	U	5,984		786		
MW-525 (Duplicate)	06/26/13	NA		NA		NA	U	130		5,400		68	U	5,564		786		
MW-525	12/17/13	990		NA		NA	U	0.008		4,000		69	U	4,175		780		
MW-525	06/17/14	NA		NA		NA	U	180		7,800		67	U	8,014		787		
MW-525	12/09/14	6,200		NA		NA	U	0.008		28,000		66	U	28,753		788		
MW-525	06/23/15	NA		NA		NA	U	230		2,700		66	U	2,963		760		
MW-525	10/26/16	350		2.0		140	U	0.008		3,900		100	U	4,100		777		
MW-525 (Duplicate)	10/26/16	360		1.9		140	U	0.008		3,300		100	U	3,490		775		
MW-525	07/26/17	1,200		NA		NA	U	0.008		4,700		110	U	4,885		782		
MW-525	03/20/18	14		NA		NA	U	0.008		920		110	U	1,000		764		
MW-525	06/27/18	6.0		NA		NA	U	0.008		1000		100	U	1,073		769		
MW-525	09/17/18	6.6		NA		NA	U	0.008		570		100	U	644		749		
MW-525	11/27/18	0.5	U	NA		NA	U	0.009		19	U	100	U	190		510		
MW-525	03/19/19	6.0		NA		NA	U	0.008		320		100	U	394		719		
MW-525	06/20/19	4.7		NA		NA	U	0.008		290		100	U	364		713		
MW-525	09/17/19	0.9	J	NA		NA	U	0.008		120	J	100	U	193		652		
MW-525	12/11/19	3.0		NA		NA	U	0.008		88	J	110	U	168		622		
MW-525	03/11/20	0.2	U	NA		NA	U	0.008		46	U	100	U	83	UU	523		

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 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-525	06/23/20	0.72	J	NA	NA	NA	NA	NA	NA	120	573
MW-525	09/21/20	1.10		NA	NA	0.009	UU	48	U	150	606
MW-525	11/04/20	0.93	J	NA	NA	0.009	UU	50	U	90	487
MW-526	06/29/12	NA		NA	NA	NA	U	82	U	67	566
MW-526	12/14/12	2.0		NA	NA	0.008	U	32	U	66	1,045
MW-526	06/26/13	2.0		NA	NA	NA	U	82	U	67	1,216
MW-526	12/18/13	1.6		NA	NA	0.090	U	93	U	68	977
MW-526	06/17/14	NA		NA	NA	NA	U	150	U	67	964
MW-526	12/10/14	1.5		NA	NA	0.008	U	64	U	66	447
MW-526	06/23/15	NA		NA	NA	NA	U	140	U	66	923
MW-526 (Duplicate)	06/23/15	NA		NA	NA	NA	U	100	U	66	923
MW-526	10/24/16	0.5	U	0.5	U	0.008	U	47	U	100	1,074
MW-526 (Duplicate)	10/24/16	0.5	U	0.5	U	0.008	U	45	U	100	1,033
MW-526	07/26/17	1.5		NA	NA	0.008	U	120	U	100	1,770
MW-526	03/20/18	1.0		NA	NA	0.008	U	210	U	100	2,060
MW-526	06/27/18	0.5	U	NA	NA	0.008	U	53	U	100	1,103
MW-526	09/17/18	0.5	U	NA	NA	0.008	U	48	U	110	789
MW-526	11/27/18	0.5	U	NA	NA	0.045	U	8800	U	1400	10,284
MW-526	02/07/19	0.1	J	NA	NA	0.008	U	100	U	100	510
MW-526	03/19/19	0.1	J	NA	NA	0.008	U	64	J	100	644
MW-526	06/20/19	0.5	U	NA	NA	0.008	U	150	U	100	840
MW-526	09/17/19	0.2	U	NA	NA	0.008	U	48	U	110	489
MW-526	12/11/19	0.2	U	NA	NA	0.008	U	47	U	100	224
MW-526	03/11/20	0.2	U	NA	NA	0.008	U	45	U	100	293
MW-526	07/01/20	0.2	U	NA	NA	0.009	UU	85	J	110	580
MW-526	09/21/20	0.2	U	NA	NA	0.009	UU	75	J	120	885
MW-526	11/04/20	0.20	U	NA	NA	0.008	UU	53	J	110	638
MW-526 (Duplicate)	11/04/20	0.20	U	NA	NA	0.009	UU	48	U	110	599
MW-527	07/02/12	NA		NA	NA	NA	U	30	U	71	76
MW-527	12/19/12	0.2	U	NA	NA	0.008	U	28	U	66	72
MW-527	06/28/13	NA		NA	NA	NA	U	29	U	67	73
MW-527 (Duplicate)	06/28/13	NA		NA	NA	NA	U	29	U	67	73
MW-527	12/20/13	0.2	U	NA	NA	0.008	U	29	U	67	73
MW-527	06/19/14	NA		NA	NA	NA	U	29	U	67	73
MW-527	12/12/14	0.2	U	NA	NA	0.008	U	29	U	67	73
MW-527 (Duplicate)	12/12/14	0.2	U	NA	NA	0.008	U	28	U	66	72
MW-527	06/28/15	NA		NA	NA	NA	U	28	U	65	72
MW-528	07/02/12	NA		NA	NA	NA	U	29	U	67	73
MW-528	12/19/12	0.2	U	NA	NA	0.008	U	29	U	68	74
MW-528 (Duplicate)	12/19/12	0.2	U	NA	NA	0.008	U	29	U	68	74
MW-528	06/28/13	NA		NA	NA	NA	U	29	U	69	74
MW-528	12/20/13	0.2	U	NA	NA	0.008	U	29	U	68	74
MW-528	06/19/14	NA		NA	NA	NA	U	29	U	67	73
MW-528	12/12/14	0.2	U	NA	NA	0.008	U	29	U	67	73
MW-528 (Duplicate)	12/12/14	0.2	U	NA	NA	0.008	U	28	U	66	72
MW-528	06/26/15	NA		NA	NA	NA	U	28	U	66	72
MW-530*	07/02/12	NA		NA	NA	NA	U	30	U	70	75
MW-530*	09/27/12	NA		NA	NA	NA	U	29	U	100	140
MW-530*	12/17/12	0.2	U	NA	NA	0.008	U	90	U	260	375
MW-530*	03/27/13	NA		NA	NA	NA	U	32	U	74	78
MW-530*	06/26/13	NA		NA	NA	NA	U	30	U	71	76
MW-530*	09/24/13	NA		NA	NA	NA	U	31	U	72	77
MW-530*	12/18/13	0.2	U	NA	NA	0.008	U	31	U	71	76
MW-530*	03/27/14	NA		NA	NA	NA	U	28	U	64	71
MW-530*	06/17/14	NA		NA	NA	NA	U	29	U	68	74
MW-530*	09/30/14	NA		NA	NA	NA	U	31	U	73	77
MW-530*	12/09/14	0.4		NA	NA	0.010	U	29	U	68	74
MW-530*	03/24/15	NA		NA	NA	NA	U	29	U	68	74
MW-530*	06/23/15	NA		NA	NA	NA	U	29	U	67	73
MW-530*	10/26/16	0.5	U	0.5	U	0.008	U	48	U	110	104
MW-530*	07/26/17	0.5	U	NA	NA	0.010	U	47	U	100	99
MW-530*	03/20/18	0.2	U	NA	NA	0.0302	U	45	U	100	98

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)							
		B	T	E	X													
		CUL=16	--	--	--													
MW-530*	06/27/18	0.5	U	NA	NA	NA	NA	NA	NA	98	UU	553						
MW-530*	09/20/18	0.5	U	NA	NA	NA	NA	NA	NA	90	UU	270						
MW-530*	11/27/18	0.5	U	NA	NA	NA	NA	NA	NA	82	UU	523						
MW-530*	03/19/19	0.0	U	NA	NA	NA	NA	NA	NA	88	UU	521						
MW-530*	06/17/19	Well Damaged - No sampling - Repaired on 06/28/19				0.008	U	45	U	19	U	110	U	82	UU	523		
MW-530*	09/17/19	0.2	U	NA	NA	NA	NA	NA	NA	90	UU	521						
MW-530*	12/12/19	0.2	U	NA	NA	NA	NA	NA	NA	83	UU	522						
MW-530*	03/11/20	0.2	U	NA	NA	NA	NA	NA	NA	83	UU	522						
MW-530*	06/23/20	0.2	U	NA	NA	NA	NA	NA	NA	83	UU	523						
MW-530*	09/21/20	0.2	U	NA	NA	NA	NA	NA	NA	90	UU	521						
MW-530*	11/03/20	0.20	U	NA	NA	NA	NA	NA	NA	169		597						
MW-531	06/28/12	NA		NA	NA	NA	NA	NA	NA	73	U	67	U	73	UU	574		
MW-531	12/18/12	0.2	U	NA	NA	NA	NA	NA	NA	83	U	68	U	146		635		
MW-531	06/26/13	NA		NA	NA	NA	NA	NA	NA	77	U	69	U	127		648		
MW-531	12/17/13	0.4		NA	NA	NA	NA	NA	NA	50	U	67	U	73	UU	574		
MW-531	06/17/14	NA		NA	NA	NA	NA	NA	NA	70	U	70	U	75	UU	571		
MW-531	12/09/14	0.2	U	NA	NA	NA	NA	NA	NA	50	U	69	U	74	UU	573		
MW-531	06/23/15	NA		NA	NA	NA	NA	NA	NA	110	U	104	U	104	UU	550		
MW-531	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	46	U	95	U	100	U	168	635	
MW-531	07/26/17	0.6		NA	NA	NA	NA	NA	NA	45	U	50	U	100	U	98	UU	553
MW-531	03/20/18	0.2	U	NA	NA	NA	NA	NA	NA	46	U	50	U	100	U	98	UU	553
MW-531	06/27/18	0.5	U	NA	NA	NA	NA	NA	NA	19	U	110	U	90	UU	521		
MW-531	09/17/18	0.5	U	NA	NA	NA	NA	NA	NA	47	U	19	U	100	U	83	UU	522
MW-531	11/27/18	0.5	U	NA	NA	NA	NA	NA	NA	190	U	19	U	100	U	250	507	
MW-531	03/19/19	4.5		NA	NA	NA	NA	NA	NA	51	U	19	U	110	U	90	UU	521
MW-531	06/20/19	0.5	U	NA	NA	NA	NA	NA	NA	49	U	19	U	110	U	89	UU	521
MW-531 (Duplicate)	06/20/19	0.5	U	NA	NA	NA	NA	NA	NA	46	U	23	J	100	U	96	549	
MW-531 (Duplicate)	09/17/19	0.2	U	NA	NA	NA	NA	NA	NA	46	U	24	J	100	U	97	551	
MW-531 (Duplicate)	09/17/19	0.2	U	NA	NA	NA	NA	NA	NA	47	U	19	U	100	U	83	UU	522
MW-531	12/11/19	0.2	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-531	03/11/20	0.2	U	NA	NA	NA	NA	NA	NA	48	U	19	U	110	U	89	UU	521
MW-531	06/24/20	0.2	U	NA	NA	NA	NA	NA	NA	1300	U	19	U	1300		2,610	501	
MW-531	09/21/20	0.2	U	NA	NA	NA	NA	NA	NA	49	U	19	UB	110	U	89	UU	487
MW-531	11/04/20	0.20	U	NA	NA	NA	NA	NA	NA	50	U	32	J	110	U	112	560	
MW-531 (Duplicate)	11/04/20	0.20	U	NA	NA	NA	NA	NA	NA	41	U	50	U	68	U	100	552	
MW-532	06/29/12	NA		NA	NA	NA	NA	NA	NA	48	U	50	U	140		213	523	
MW-532	12/14/12	0.2	U	NA	NA	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574
MW-532	06/26/13	NA		NA	NA	NA	NA	NA	NA	30	U	50	U	69	U	75	UU	572
MW-532	12/17/13	0.2	U	NA	NA	NA	NA	NA	NA	29	U	50	U	67	U	73	UU	574
MW-532	06/17/14	NA		NA	NA	NA	NA	NA	NA	36	U	50	U	66	U	94	555	
MW-532	12/09/14	0.2		NA	NA	NA	NA	NA	NA	28	U	50	U	66	U	72	UU	575
MW-532	06/23/15	NA		NA	NA	NA	NA	NA	NA	450		90		110		650	527	
MW-532	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	380		50	U	110	U	460	510	
MW-532	07/26/17	0.5	U	NA	NA	NA	NA	NA	NA	46	U	50	U	100	U	98	UU	553
MW-532	03/20/18	0.2	U	NA	NA	NA	NA	NA	NA	46	U	50	U	100	U	98	UU	553
MW-532	06/27/18	0.5	U	NA	NA	NA	NA	NA	NA	48	U	19	U	110	U	89	UU	521
MW-532	09/17/18	0.5	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	11/27/18	0.5	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	03/19/19	0.0	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	06/20/19	0.5	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	09/17/19	0.2	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	12/11/19	0.2	U	NA	NA	NA	NA	NA	NA	45	U	19	U	100	U	82	UU	523
MW-532	03/11/20	0.2	U	NA	NA	NA	NA	NA	NA	46	U	19	U	100	U	83	UU	523
MW-532	07/01/20	0.2	U	NA	NA	NA	NA	NA	NA	97	J	19	U	210	J	317	506	
MW-532	09/21/20	0.2	U	NA	NA	NA	NA	NA	NA	47	U	19	U	110	J	143	513	
MW-532	11/04/20	0.20	U	NA	NA	NA	NA	NA	NA	57	J	19	UB	110	U	122	490	
MW-8R*	10/21/08	0.505		0.50	U	0.50	U	1.00	U	243	U	145	JZ	485	U	509	560	
MW-8R*	12/09/08	0.51		0.50	U	0.50	U	1.00	U	240	U	97.1	U	481	U	458	543	
MW-8R*	02/23/09	0.5	U	NA	NA	NA	NA	NA	NA	68	U	50	U	70	U	128	540	
MW-8R*	04/21/09	0.5	U	NA	NA	NA	NA	NA	NA	29	U	50	U	67	U	88	560	
MW-8R*	06/23/09	0.5	U	NA	NA	NA	NA	NA	NA	49	U	50	U	67	U	108	548	
MW-8R*	08/18/09	0.5	U	NA	NA	NA	NA	NA	NA	62	U	50	U	66	U	120	542	

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)					
		B	T	E	X											
		CUL=16	--	--	--											
MW-8R*	10/26/09	0.5	U	NA	NA	NA	NA	0.012	U	300	50	U	66	U	358	513
MW-8R*	01/19/10	NA		NA	NA	NA	NA	NA	U	34	50	U	67	U	93	556
MW-8R* (Duplicate)	01/19/10	NA		NA	NA	NA	NA	NA	U	32	50	U	68	U	91	557
MW-8R*	04/20/10	NA		NA	NA	NA	NA	NA	U	28	U	50	66	U	72	UU
MW-8R*	07/20/10	NA		NA	NA	NA	NA	NA	U	79	U	50	67	U	138	537
MW-8R*	10/26/10	0.5	U	NA	NA	NA	NA	0.013	U	440	50	U	77	U	504	509
MW-8R*	03/22/11	NA		NA	NA	NA	NA	NA	U	28	U	50	66	U	72	UU
MW-8R* (Duplicate)	03/22/11	NA		NA	NA	NA	NA	NA	U	32	U	50	67	U	91	558
MW-8R*	06/15/11	NA		NA	NA	NA	NA	NA	U	44	U	50	67	U	103	550
MW-8R*	09/27/11	NA		NA	NA	NA	NA	NA	U	30	U	50	70	U	75	UU
MW-8R*	12/14/11	0.2	U	NA	NA	NA	NA	0.007	U	28	U	50	66	U	72	UU
MW-8R*	03/28/12	NA		NA	NA	NA	NA	NA	U	29	U	50	67	U	73	UU
MW-8R*	06/28/12	NA		NA	NA	NA	NA	NA	U	30	U	50	70	U	75	UU
MW-8R* (Duplicate)	06/28/12	NA		NA	NA	NA	NA	NA	U	30	U	50	71	U	76	UU
MW-8R*	09/26/12	NA		NA	NA	NA	NA	NA	U	31	U	50	73	U	77	UU
MW-8R*	12/14/12	0.2	U	NA	NA	NA	NA	0.008	U	28	U	50	66	U	72	UU
MW-8R*	03/26/13	NA		NA	NA	NA	NA	NA	U	28	U	50	66	U	72	UU
MW-8R*	06/25/13	NA		NA	NA	NA	NA	NA	U	29	U	50	67	U	73	UU
MW-8R*	09/25/13	NA		NA	NA	NA	NA	NA	U	30	U	50	69	U	75	UU
MW-8R*	12/17/13	0.2	U	NA	NA	NA	NA	0.008	U	30	U	50	70	U	75	UU
MW-8R*	03/27/14	NA		NA	NA	NA	NA	NA	U	29	U	50	67	U	73	UU
MW-8R*	06/18/14	NA		NA	NA	NA	NA	NA	U	29	U	50	67	U	73	UU
MW-8R* (Duplicate)	06/18/14	NA		NA	NA	NA	NA	NA	U	28	U	50	66	U	72	UU
MW-8R*	09/30/14	NA		NA	NA	NA	NA	NA	U	31	U	50	73	U	77	UU
MW-8R*	12/10/14	0.2		NA	NA	NA	NA	0.008	U	28	U	50	66	U	72	UU
MW-8R*	03/25/15	NA		NA	NA	NA	NA	NA	U	29	U	50	68	U	74	UU
MW-8R*	06/23/15	NA		NA	NA	NA	NA	NA	U	28	U	50	66	U	72	UU
MW-8R*	10/24/16	0.5	U	0.5	U	0.5	U	1.5	U	46	U	50	100	U	98	UU
MW-8R*	07/25/17	0.5	U	NA	NA	NA	NA	0.007	U	45	U	50	100	U	98	UU
MW-8R*	03/20/18	0.2	U	NA	NA	NA	NA	0.008	U	48	U	50	110	U	104	UU
MW-8R*	06/29/18	0.5	U	NA	NA	NA	NA	0.008	U	47	U	50	100	U	99	UU
MW-8R*	09/18/18	0.5	U	NA	NA	NA	NA	0.008	U	47	U	19	100	U	83	UU
MW-8R*	11/29/18	0.5	U	NA	NA	NA	NA	0.008	U	48	U	19	110	U	89	UU
MW-8R*	03/21/19	0.5	U	NA	NA	NA	NA	0.008	U	47	U	19	100	U	83	UU
MW-8R*	06/18/19	0.5	U	NA	NA	NA	NA	0.008	U	140	U	19	120	U	210	509
MW-8R*	09/18/19	0.2	U	NA	NA	NA	NA	0.008	U	46	U	19	100	U	83	UU
MW-8R*	12/12/19	0.2	U	NA	NA	NA	NA	0.008	U	50	U	19	110	U	90	UU
MW-8R*	03/10/20	0.2	U	NA	NA	NA	NA	0.008	U	47	U	19	110	U	88	UU
MW-8R*	06/30/20	0.2	U	NA	NA	NA	NA	0.009	UU	46	U	19	100	U	83	UU
MW-8R*	09/23/20	0.2	U	NA	NA	NA	NA	0.008	UU	48	U	19	110	U	89	UU
MW-8R*	11/06/20	0.20	U	NA	NA	NA	NA	0.008	UU	48	U	19	110	U	89	UU
MW-533*	03/20/18	0.2	U	NA	NA	NA	NA	0.008	UU	47	U	50	100	U	99	UU
MW-533*	06/27/18	0.5	U	NA	NA	NA	NA	0.008	UU	45	U	50	100	U	98	UU
MW-533*	09/17/18	0.5	U	NA	NA	NA	NA	0.008	UU	50	U	19	110	U	90	UU
MW-533* (Duplicate)	09/17/18	0.5	U	NA	NA	NA	NA	0.008	UU	49	U	19	110	U	89	UU
MW-533*	11/27/18	0.5	U	NA	NA	NA	NA	0.008	UU	45	U	19	100	U	82	UU
MW-533**	03/19/19	0.0	U	NA	NA	NA	NA	0.008	UU	47	J	19	100	U	107	517
MW-533*	06/19/19	0.5	U	NA	NA	NA	NA	0.008	UU	50	U	19	110	U	90	UU
MW-533*	09/17/19	0.2	U	NA	NA	NA	NA	0.008	UU	45	U	19	100	U	82	UU
MW-533*	12/11/19	0.2	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-533* (Duplicate)	12/11/19	0.2	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-533*	03/11/20	0.2	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-533*	06/24/20	0.2	U	NA	NA	NA	NA	0.008	UU	47	U	19	100	U	83	UU
MW-533*	09/21/20	0.2	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-533*	11/04/20	0.20	U	NA	NA	NA	NA	0.008	UU	45	U	19	UB	U	82	UU
MW-534	03/20/18	0.2	U	NA	NA	NA	NA	0.008	UU	45	U	50	100	U	98	UU
MW-534	06/27/18	0.5	U	NA	NA	NA	NA	0.008	UU	46	U	50	100	U	98	UU
MW-534	09/17/18	0.5	U	NA	NA	NA	NA	0.008	UU	47	U	19	100	U	83	UU
MW-534	11/28/18	0.5	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-534 (Duplicate)	11/28/18	0.5	U	NA	NA	NA	NA	0.008	UU	50	U	19	110	U	90	UU
MW-534	03/19/19	0.0	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU
MW-534 (Duplicate)	03/19/19	0.0	U	NA	NA	NA	NA	0.008	UU	46	U	19	100	U	83	UU

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 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)						
		B	T	E	X												
		CUL=16	--	--	--												
MW-534	06/20/19	0.5	U	NA	NA	NA	0.008	UU	51	U	19	U	110	U	90	UU	521
MW-534	09/17/19	0.2	U	NA	NA	NA	0.008	UU	45	U	29	J	100	U	102	UU	560
MW-534	12/12/19	0.2	U	NA	NA	NA	0.008	UU	48	U	19	U	110	U	89	UU	521
MW-534	03/11/20	0.2	U	NA	NA	NA	0.008	UU	48	U	19	U	110	U	89	UU	521
MW-534	06/24/20	0.2	U	NA	NA	NA	0.009	UU	46	U	20	J	100	U	93	UU	544
MW-534	09/21/20	0.2	U	NA	NA	NA	0.008	UU	47	U	19	U	110	U	88	UU	521
MW-534	11/04/20	0.20	U	NA	NA	NA	0.009	UU	48	U	29	J	110	U	108	UU	556
MW-535*	03/20/18	0.2	U	NA	NA	NA	0.008	UU	45	U	50	U	100	U	98	UU	553
MW-535* (Duplicate)	03/20/18	0.2	U	NA	NA	NA	0.008	UU	46	U	50	U	100	U	98	UU	553
MW-535*	06/27/18	0.5	U	NA	NA	NA	0.008	UU	48	U	50	U	110	U	104	UU	550
MW-535* (Duplicate)	06/27/18	0.5	U	NA	NA	NA	0.008	UU	49	U	50	U	110	U	105	UU	549
MW-535*	09/17/18	0.5	U	NA	NA	NA	0.008	UU	49	U	19	U	110	U	89	UU	521
MW-535*	11/27/18	0.5	U	NA	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-535**	03/19/19	0.0	U	NA	NA	NA	0.008	UU	45	U	19	U	100	U	82	UU	523
MW-535*	06/19/19	0.5	U	NA	NA	NA	0.008	UU	52	U	19	U	110	U	91	UU	520
MW-535*	09/17/19	0.2	U	NA	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-535*	12/12/19	0.2	U	NA	NA	NA	0.008	UU	46	U	19	U	320	U	353	UU	505
MW-535*	03/11/20	0.2	U	NA	NA	NA	0.192	UU	48	U	19	U	110	U	89	UU	521
MW-535*	06/23/20	0.2	U	NA	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-535* (Duplicate)	06/23/20	0.2	U	NA	NA	NA	0.008	UU	46	U	19	U	100	U	83	UU	523
MW-535*	09/21/20	0.2	U	NA	NA	NA	0.009	UU	48	U	19	U	110	U	89	UU	521
MW-535*	11/03/20	0.20	U	NA	NA	NA	0.009	UU	49	U	19	U	190	J	224	UU	508
MW-E	07/26/17	0.5	U	NA	NA	NA	0.018	UU	1500		260		100	U	1,810	UU	528
MW-E-R	03/20/18	0.2	U	NA	NA	NA	0.008	UU	45	U	410		100	U	483	UU	734
MW-E-R	06/27/18	0.5	U	NA	NA	NA	0.008	UU	59		510		110	U	624	UU	721
MW-E-R	09/17/18	0.5	U	NA	NA	NA	0.008	UU	280		590		100	U	920	UU	658
MW-E-R	11/27/18	0.5	U	NA	NA	NA	0.012	UU	640		460		110	U	1,155	UU	588
MW-E-R	02/07/19	0.2	J	NA	NA	NA	0.008		450		350		100	U	850	UU	591
MW-E-R (Duplicate)	02/07/19	0.2	J	NA	NA	NA	0.008		300		380		100	U	730	UU	621
MW-E-R	03/19/19	0.1	J	NA	NA	NA	0.010		180		400		110	U	635	UU	655
MW-E-R	06/20/19	0.5	U	NA	NA	NA	0.008	UU	100	J	460		120	U	620	UU	693
MW-E-R	09/17/19	0.2	U	NA	NA	NA	0.008	UU	140		690		100	U	880	UU	708
MW-E-R	12/11/19	2.0	U	NA	NA	NA	0.008	UU	74	J	770		100	U	894	UU	739
MW-E-R	03/11/20	2.0	U	NA	NA	NA	0.008	UU	86	J	880		100	U	1,016	UU	741
MW-E-R	06/23/20	2.0	U	NA	NA	NA	0.008	UU	48	U	1000		110	U	1,079	UU	766
MW-E-R (Duplicate)	06/23/20	2.0	U	NA	NA	NA	0.009	UU	46	U	960		100	U	1,033	UU	767
MW-E-R	09/21/20	0.2	U	NA	NA	NA	0.008	UU	210		1100		270	U	1,580	UU	677
MW-E-R (Duplicate)	09/21/20	0.2	U	NA	NA	NA	0.008	UU	47	U	980		140	J	1,144	UU	737
MW-E-R	11/04/20	0.23	J	NA	NA	NA	0.009	UU	72	J	1,300		110	U	1,427	UU	759

Table 3-4
 Summary of Groundwater Analytical Data
 Petroleum and Polynuclear Aromatic Hydrocarbons
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	BTEX ¹ (µg/L)				Total cPAHs Adjusted for Toxicity ² (µg/L)	Diesel ³ (µg/L)	Gasoline ⁴ (µg/L)	Heavy Oil ³ (µg/L)	TPH ⁵ (µg/L)	TPH CUL ⁶ (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
					CUL=0.05	--	--	--	see note 6		

Notes:

¹B= benzene, T= toluene, E= ethylbenzene, X= xylenes. BTEX analyzed by EPA Method 8021B.

²cPAHs = Carcinogenic Polynuclear Aromatic Hydrocarbons. Analyzed by EPA Method 8270C-HVI. cPAHs adjusted for toxicity according to WAC 173-340-708(8) and Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II Technical Support Document for Describing Available Cancer Potency Factors. Office of Environmental Health Hazard Assessment, California EPA. May 2005. If one or more adjusted cPAH constituents were reported as Non-Detect, half of the reporting limit was used in calculations.

³Diesel and Heavy Oil (Lube) analyzed by method NWTPH-D Extended.

⁴Gasoline analyzed by method NWTPH-G.

⁵TPH = Total petroleum hydrocarbons. TPH calculated by summing the concentrations of gasoline, diesel and heavy oil. For results which did not exceed method reporting limits, half of the reporting limit was added to determine TPH.

-- = not applicable

⁶ Sample specific TPH CULs are developed by setting a hazard index for all TPH mixtures (GRO, DRO, HO) to 1, and adjusting the compositions relative to their mixtures and MTCA A CULs for groundwater. The calculation used is from Section 5.3 of the Interim Action Report (SLR, 2007) and is as follows: TPH CUL = 1/(%GRO/800+%DRO/500+%HO/500). For constituents that are less than detection limits, half of the detection limit was used in the calculation.

(µg/L) = micrograms per liter.

CUL = Cleanup level.

EPA = Environmental Protection Agency.

* = Denotes perimeter wells.

[] = Bracketed data indicate duplicate samples.

Highlighted cell = Exceeds site specific CUL.

Shaded values indicate the most recent sampling event.

LNAPL = Light non-aqueous phase liquid.

NA = Not Analyzed.

Lab Qualifiers

Definition

D	Compound quantitated using a secondary dilution.
J	Indicates an estimated value.
B	Compound was found in the blank and sample.
JX	Results in the diesel organic range are primarily due to overlap from a gasoline range product.
JZ	Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.
U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
UJ	The compound was analyzed for but not detected. The associated value is the estimated compound quantitation limit.
UU	The constituents making up the total are all non-detects.
W	Due to excessive foaming of the sample, normal reporting limits were not attained.
XX	Sample was collected as part of a matrix spike/ matrix spike duplicate (MS/MSD). Anomalous detection of HO was re-analyzed. The sample extract was re-injected and confirmed the reported results. The sample was re-extracted past
F1	Matrix Spike and/or Matrix Spike Duplicate exceeds control limits
R	Data rejected during data validation

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
LM-2	10/23/08	57.54	3.51	17,373.54	0.39	222.94	5 U	914	1 UJ	28.1	0.349	4.0
LM-2	12/11/08	53.17	3.89	13,859.08	0.17	338.86	5 U	942	0.2 U	46.9	0.358	5.0
LM-2	02/26/09	49.78	3.82	12,912.70	1.62	371.08	0.46 U	915	0.250 U	59	0.367	3.2
LM-2	04/23/09	51.06	4.91	11,367.56	7.37	133.42	9.7	768	0.250 U	50	0.298	6.0
LM-2	06/25/09	55.63	5.36	17,476.72	3.18	-38.23	43.4	1,280	0.640	41	0.239	6.0
LM-2	08/20/09	60.42	6.03	23,943.90	5.43	-93.49	90.6	2,220	0.250 UW	25 P	0.277	6.0
LM-2	10/30/09	56.50	4.16	5,546.90	0.91	325.52	30.2	401	0.250 U	15	0.292	7.5
LM-2	10/29/10	59.54	5.27	12,292.11	1.08	27.03	90.4	385	5.000 U	760	0.196	5.2
LM-2	12/16/11	49.80	4.12	17,054.02	0.85	370	460 U	829	0.250 U	85	0.309	3.4
LM-2	12/18/12	50.34	4.98	14,232.66	1.15	112	35.9	652	0.250 U	2,300	0.263	5.5
LM-2	12/18/13	50.45	6.08	6,670.25	0.23	-39.01	43	337	0.250 U	1,800	0.213	6.0
LM-2	12/09/14	54.22	6.02	15,451.56	0.43	-191.87	101	563	0.250 U	1,700	0.569	>10
LM-2	07/26/17	64.92	6.29	4,426.9	0.07	-79.2	NA	10.0	0.250 U	5,600	0.184	10
LM-2	03/20/18	53.75	6.26	6,640.4	0.48	-14.5	NA	NA	NA	NA	NA	NA
LM-2	06/27/18	61.84	6.22	6,198.0	0.31	-71.0	NA	133.0	0.250 U	670	0.162	6
LM-2	11/27/18	55.99	6.02	4,512.3	0.01	-101.5	NA	93.2	0.250 U	640	0.097	7
LM-2	06/20/19	62.10	5.97	6,213	0.54	-48.5	NA	155.0	0.250 U	860	0.107	6.5
LM-2	12/11/19	53.12	6.10	10,221	0.04	-80.3	NA	185.0	0.620	400	0.001 J	7.0
LM-2	06/23/20	62.88	6.15	9,516	0.08	-153.5	NA	290.0	0.250 U	1,600	0.150	7.0
LM-2	11/03/20	59.47	6.14	10,419	0.11	-100.8	NA	200.0	0.250 U	820	0.210	6.5
MW-101	10/22/08	59.63	6.13	2,774	0.19	64.36	42	96.2	0.21	170	1.33	3.6
MW-101	12/10/08	55.79	5.99	1,808	0.41	132.69	50	41	0.45	708	3.32	2.2
MW-101	02/24/09	43.38	6.32	870.43	0.78	49.88	110	70.6	0.39	3,000	2.38	2.4
MW-101	04/22/09	49.80	6.19	452.57	3.79	24.22	83	83.3	0.98	300	0.977	1.0
MW-101	06/25/09	57.14	6.10	901.96	1.65	129.31	56	135	0.250 U	71	1.55	0.5
MW-101	08/20/09	64.03	6.15	1,865	0.66	48.55	75.8	110	0.250 UW	250 P	2.98	6.0
MW-101	10/27/09	59.81	6.11	877.98	1.56	141.54	101	37.5	1.20	1.7	0.185	0.5
MW-101	10/27/10	59.43	6.12	3,096	2.12	-48.48	108	107	0.250 U	200	1.33	5.0
MW-101	12/14/11	54.44	6.54	1,096	0.95	100	130	35.3	0.910	320	0.0501	0.0
MW-101	12/18/12	52.84	6.63	180.44	9.59	119.91	109	16.3	1.300	3.0 U	0.0012	0.0
MW-101	12/20/13	52.58	6.22	1,632	1.43	94.46	203	9.7	0.490	2,600	0.0509	0.0
MW-101	12/10/14	56.57	6.65	347.63	5.55	135.62	90	20	1.800	25	0.0013	0.0
MW-101	07/25/17	58.75	6.50	445.74	2.28	116.9	NA	38.5	0.250 U	8.5	0.043	0.25
MW-101* (Duplicate)	07/25/17	--	--	--	--	--	--	33.7	0.290	9.8	0.036	--
MW-101	03/22/18	50.41	6.61	246.3	5.94	114.5	NA	NA	NA	NA	NA	NA
MW-101	06/28/18	57.72	6.81	440.3	0.34	77.8	NA	10.2	0.450	320	0.065	0
MW-101	11/28/18	57.30	7.00	1,463	0.69	-63.7	NA	3.9	0.250 U	4,100	2.220	6
MW-101	06/18/19	55.79	6.25	2,726	3.47	145.2	NA	131.0	0.580	55	0.870	1
MW-101	12/12/19	57.27	7.07	4,079	0.30	-126.7	NA	14.8	0.250 U	2,700	12.700	7.0
MW-101* (Duplicate)	12/12/19	57.27	7.07	4,079	0.30	-126.7	NA	14.5	0.250 U	2,600	11.100	7.0
MW-101	06/24/20	58.26	6.99	717.6	0.26	-98.5	NA	37.0	0.250 UH	4,200	4.600	>7.0
MW-101	11/06/20	58.57	7.10	2,588.9	0.70	-147.1	NA	100.0	0.250 UH	3,900	11.0	3.5
MW-104	10/22/08	58.72	6.26	2,428	-0.01	-13.09	35.6	66.6	0.200 U	594	1.02	4.0
MW-104	12/10/08	55.07	6.24	982.41	0.22	30.53	53.8	23.1	0.200 U	1,160	1.13	3.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-104	02/24/09	49.93	6.08	967.89	0.21	-26.14	58.8	17	0.250 U	2,200	1.19	3.2
MW-104	04/23/09	48.22	6.23	566.34	1.01	-121.29	59.2	60.2	0.73	1,800	0.959	4.0
MW-104	06/24/09	58.33	6.34	506.78	0.21	-62.91	63.9	39.2	0.25 U	1,200	0.714	6.0
MW-104	08/19/09	62.87	6.32	1,353	0.29	-61.28	75.6	45	0.25 U	950	0.901	6.0
MW-104	10/27/09	60.10	6.12	2,590	0.43	-27.46	110	92.4	0.3	3,200	1.4	4.5
MW-104	10/27/10	58.17	6.16	1,640	0.04	-86.19	95.1	31.2	0.25 U	1,300	1.3	2.1
MW-104	12/13/11	53.28	6.19	863.19	0.14	-10.00	112	52.8	0.53 U	1,700	0.765	3.0
MW-104	12/18/12	50.70	6.35	229.74	3.31	197.61	96.4	17.2	1.6	37	0.061	1.0
MW-104	12/17/13	53.92	6.17	323.93	0.13	-66.63	108	18.3	0.3	980	0.287	0.12
MW-104	12/09/14	56.77	6.36	358.53	0.06	11.37	109	26	0.250 U	1,300	0.367	0.6
MW-104	07/26/17	60.48	6.53	360.84	0.18	17.2	NA	6.8	0.250 U	440	0.254	2.5
MW-104	03/20/18	50.34	--	--	10.31	--	NA	NA	NA	NA	NA	NA
MW-104	06/27/18	59.74	6.47	506.2	0.21	-192.3	NA	13.0	0.250 U	280	0.339	1
MW-104	11/27/18	58.81	6.71	632.6	0.02	-108.7	NA	7.4	0.250 U	960	0.380	4
MW-104	06/20/19	55.38	6.62	624.0	0.43	-37.3	NA	7.2	0.250 U	310	0.445	4.5
MW-104	12/12/19	55.08	6.41	5,784	2.18	-42.9	NA	132.0	0.250 U	230	1.870	6.5
MW-104	07/01/20	57.23	6.43	3,278	0.00	-186.0	NA	100.0	0.250 U	310	1.300	2.0
MW-104	11/04/20	58.93	5.80	10,327	0.11	-67.9	NA	300.0	0.250 UH	200 F1	2.3	2.0
MW-108	10/23/08	53.88	6.26	14,852	0.20	-83.53	509	373	1 UJ	2,390 D	0.208	1.4
MW-108	12/11/08	50.51	6.29	14,241	0.01	-184.14	557	288	0.200 U	1,410 D	0.242	1.2
MW-108	02/26/09	50.02	6.28	15,209	0.19	-268.28	549	456	0.250 U	3,000	0.263	3.0
MW-108	04/23/09	49.14	6.36	14,219	0.02	-270.38	517	315	0.250 U	2,400	0.278	3.0
MW-108	06/25/09	54.05	6.30	15,829	0.72	-132.71	486	507	0.52	2,100	0.284	4.5
MW-108	08/20/09	56.41	6.31	16,789	0.07	-158.78	525	401	0.25 UW	3,500	0.254	2.0
MW-108	10/30/09	55.36	6.31	18,050	0.12	-88.09	495	566	0.25 U	2,100	0.267	5.0
MW-108	10/29/10	54.88	6.31	23,518	0.02	-260.17	475	508	5 U	1,600	0.191	1.2
MW-108	12/16/11	51.90	6.27	20,084	0.07	-110.00	356	426	0.25 U	1,100	0.318	2.0
MW-108	12/18/12	45.21	6.17	12,903	0.63	-156.33	376	391	0.25 U	1,000	0.141	2.7
MW-108	12/19/13	50.97	6.51	21,819	-0.03	-267.22	545	381	0.25 U	2,100	0.124	0.2
MW-108	12/09/14	55.06	6.49	22,617	0.04	-321.05	605	404	0.250 U	3,300	0.107	1.0
MW-109	10/23/08	54.91	6.22	16,332	1.34	-194.55	342	693	1 UJ	785	1.59	0.6
MW-109	12/12/08	51.03	6.29	12,565	0.80	-193.01	291	640	0.200 U	560	0.528	0.2
MW-109	02/26/09	47.82	6.38	13,624	3.97	-179.39	300	993	0.250 U	820	1.21	0.4
MW-109	04/23/09	47.97	6.03	8,714	1.84	-192.93	316	546	0.250 U	350	1.58	1.0
MW-109	06/25/09	54.17	6.21	22,125	0.52	-138.25	202	1,660	1.4	570	1.09	3.0
MW-109	08/20/09	55.99	6.37	23,873	2.33	-155.34	331	1,540	0.25 UW	320 P	1,650	1.0
MW-109	10/30/09	55.51	6.00	14,893	0.76	-41.77	332	1,200	0.25 U	400	1.38	1.0
MW-109	10/29/10	54.34	6.54	23,528	3.14	-262.04	348	824	0.25 U	420	1.93	0.1
MW-109	12/16/11	50.80	6.35	13,574	1.60	-120.00	259	597	0.25 U	310	1.58	1.6
MW-109	12/18/12	46.13	5.94	3,373	1.39	-92.39	153	193	0.250 U	390	0.381	3.1
MW-109	12/19/13	49.84	6.70	22,150	6.62	-204.45	440	547	0.25 U	160	1.84	0.0
MW-109	12/09/14	54.73	6.63	14,320	6.42	-244.96	361	450	0.250 U	1,300	1.520	0.2
MW-126	12/18/12	49.66	6.75	301.47	2.81	13.21	249	19.6	0.250 U	3.0 U	0.126	2.0
MW-126	12/17/13	50.04	6.69	666.12	1.75	48.55	264	39.1	0.280	3.0 U	0.294	3.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-126	12/10/14	52.14	6.73	730.22	0.13	38.63	283	25.3	0.250 U	3.0 U	0.0592	0.0
MW-126	07/25/17	55.16	6.09	461.04	0.95	232.7	NA	33.2	0.250 U	3.0 U	0.008	0.95
MW-126	03/22/18	46.35	7.14	515.3	7.04	199.5	NA	NA	NA	NA	NA	NA
MW-126	06/29/18	53.45	6.72	487.1	0.49	164.3	NA	26.8	0.250 U	3.0 U	0.025	2
MW-126	11/30/18	52.38	7.09	514.5	10.25	136.1	NA	35.8	3.100	3.0 U	0.005 U	0
MW-126 (Duplicate)	11/30/18	--	--	--	--	--	NA	43.5	3.600	3.0 U	0.005 U	NA
MW-126	06/19/19	58.53	7.38	0.1	9.51	101.3	NA	38.8	0.250 U	3.0 U	0.015	0.0
MW-126	12/11/19	51.47	6.91	384.3	0.68	99.7	NA	31.0	0.250 U	3.0 U	0.036	0.5
MW-126	06/24/20	59.96	6.72	506.8	1.26	8.8	NA	41.0	0.250 UH	3.0 U	0.047	1.0
MW-126	11/06/20	54.15	6.73	440.97	0.56	93.1	NA	29.0	0.380 JH	3.0 U	0.016	0.0
MW-129R	10/24/08	54.76	6.45	839.57	-0.02	-33.84	502	23.8	0.200 U	1,930	5.74	5.8
MW-129R	12/12/08	51.10	6.62	867.09	0.12	-76.86	469	91.6	0.200 U	1,600 D	10.3	5.4
MW-129R	02/27/09	47.80	6.50	836.19	0.18	-70.26	505	47.1	0.250 U	6,000	8.56	5.8
MW-129R	04/27/09	49.18	6.56	822.66	0.17	-116.70	485	60.4	0.250 U	10,000	8.21	10.0
MW-129R	06/26/09	54.44	6.54	1,301	0.07	-79.11	493	64.4	0.250 U	9,100	7.81	9.0
MW-129R	08/21/09	57.58	6.58	1,014	0.06	-286.98	597	51.3	0.250 U	5,400	7.88	9.0
MW-129R	10/28/09	55.23	6.75	1,919	0.05	-161.96	1,150	1.7	0.250 U	15,000	5.22	8.0
MW-129R	11/01/10	55.53	6.58	1,397	0.10	-155.22	742	75.3	0.250 U	5,500	8.92	2.8
MW-129R	12/19/11	52.20	6.52	1,680	0.01	-110.00	1,000	25.2	0.250 U	11,000	7.00	5.0
MW-129R	12/18/12	51.77	6.60	1,485	0.29	-82.07	687	102	0.250 U	3,900	10.3	5.0
MW-129R	12/18/13	52.41	6.73	1,114	0.08	-117.71	699	66.3	0.250 U	2,300	11.3	4.5
MW-129R	12/09/14	54.53	6.69	1,490	0.06	-134.58	710	11	0.05 U	5,200	10.5	>10
MW-129R	07/26/17	58.59	6.64	1,435	0.11	-41.5	NA	112	0.250 U	4,200	8.270	7.0
MW-129R	03/20/18	50.15	6.71	1,377	0.11	-125.1	NA	NA	NA	NA	NA	NA
MW-129R	06/27/18	55.04	6.64	1,445	0.18	-188.1	NA	87.6	0.250 U	2,900	8.530	7
MW-129R	11/28/18	54.32	6.85	1,297	0.06	-127.7	NA	98.6	0.250 U	1,800	7.670	7
MW-129R	06/20/19	54.65	6.82	1,321	0.32	-55.8	NA	66.2	0.410 J	1,000	7.810	6.0
MW-129R	12/11/19	51.65	6.85	1,371	0.15	-98.0	NA	41.4	0.250 U	1,500	8.610	7.5
MW-129R	06/24/20	57.08	6.73	1,282	0.26	-111.7	NA	170	0.25 UH	1,500	7.700	7.0
MW-129R (Duplicate)	06/24/20	--	--	--	--	--	--	170.0	0.250 UH	1,500	7.800	--
MW-129R	11/04/20	56.82	6.91	1,351.9	0.07	-184.2	NA	110.0	0.250 UH	1,300	7.8	3.5
MW-134X	12/14/12	51.75	6.42	306.96	10.37	109.28	124	32.2	0.890	3.0 U	0.102	2.0
MW-134X	12/19/13	50.93	6.23	256.29	2.61	1.35	139	34	1.200	3.0 U	0.0	2.5
MW-134X	12/10/14	55.84	6.29	422.07	3.12	41.77	133	38	1.300	13	0.003	0.6
MW-135	10/27/08	54.94	6.51	1,848	-0.03	-60.48	959	4.12	0.200 U	10,800 D	2.68	4.0
MW-135	12/15/08	49.73	6.59	1,955	-0.09	-81.98	1,070	1.43	0.200 U	7,170 D	2.69	2.2
MW-135	02/27/09	52.61	6.38	760.32	0.27	22.19	402	79.1	0.250 U	1,100	1.31	3.4
MW-135	04/24/09	50.76	6.48	649.63	0.13	-134.17	382	67.2	0.250 U	620	0.743	2.0
MW-135	06/29/09	51.44	6.47	1,319	1.09	-31.25	752	33	0.43	2,600	1.66	6.0
MW-135	08/24/09	53.02	6.56	2,050	0.29	-60.39	1,140	6	0.250 U	11,000	1.67	7.0
MW-135	10/29/09	52.90	6.54	2,163	0.14	-87.07	1,220	2.4	0.250 U	12,000	1.75	8.0
MW-135	11/01/10	54.37	6.46	2,819	0.06	-74.99	1,160	1.5 U	0.250 U	12,000	1.24	5.6
MW-135	12/16/11	51.80	6.57	1,201	0.04	-20.00	425	101	0.250 U	250	0.37	7.0
MW-135	12/19/12	50.79	6.42	504.30	4.73	15.82	291	32.5	1.5	1,200	0.142	3.4

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-135	12/20/13	50.87	6.50	1,914	0.03	549.43	1,080	1.5 U	0.250 U	20,000	0.755	4.9
MW-135	12/12/14	54.03	6.36	818.48	1.44	-13.44	291	49	0.250 U	740	0.080	7.5
MW-136	10/27/08	53.88	6.34	2,331	0.06	-57.07	851	0.42	0.200 U	16,800 D	3.19	4.2
MW-136	12/15/08	46.47	6.31	1,093	0.17	-99.68	629	32.5	0.200 U	9,050 D	4.31	2.8
MW-136	02/27/09	47.97	6.34	990.82	0.43	-56.64	474	72.1	0.250 U	8,900	4.05	5.6
MW-136	04/24/09	49.91	6.41	925.24	0.07	-193.85	405	91.1	0.250 U	13,000	4.62	8.0
MW-136	06/29/09	51.53	6.43	975.31	0.37	-75.06	492	72.1	0.250 U	16,000	4.86	7.0
MW-136	08/24/09	54.28	6.43	1,021	0.14	-92.53	544	36.3	0.250 U	21,000	4.82	10.0
MW-136	10/29/09	53.78	6.35	981.76	0.25	-113.64	574	1.5 U	0.250 U	19,000	4.63	7.0
MW-136	11/01/10	54.50	6.44	1,148	0.05	-140.56	576	1.5 U	0.250 U	17,000	6.13	1.8
MW-136	12/16/11	51.90	6.43	2,964,573	-0.01	-94.97	523	2.8	0.250 U	20,000	12.6	2.0
MW-136	12/19/12	49.27	6.61	771.17	0.06	-216.79	416	14.8	0.250 U	8,200	10.2	7.0
MW-136	12/20/13	49.48	6.30	696.18	0.07	-202.27	488	1.5 U	0.250 U	25,000	12.9	6.0
MW-136	12/12/14	52.88	6.76	734.70	1.96	-54.76	405	5	0.250 U	10,000	10.700	9.5
MW-139R	10/22/08	63.60	6.87	664.62	0.01	-22.31	243	64.8	0.200 U	864	2.48	1.0
MW-139R	12/10/08	54.36	6.96	708.71	0.78	15.38	167	76.1	0.2	13	0.902	0.5
MW-139R	02/25/09	43.11	7.06	334.12	3.34	136.11	105	53	0.4	5.0 U	0.115	0.4
MW-139R	04/23/09	47.34	7.08	180.00	1.66	-104.66	81.4	32.3	0.250 U	10 U	0.0102	0.4
MW-139R	06/25/09	62.38	7.14	365.34	0.50	-96.96	134	51.5	0.250 U	34	0.523	2.0
MW-139R	08/20/09	69.85	7.10	439.97	0.22	-108.16	156	49.7	0.250 UW	77 P	0.512	1.0
MW-139R	10/28/09	60.58	6.95	277.93	1.41	71.75	110	37.5	0.250 U	5.2	0.0215	0.5
MW-139R	10/28/10	61.92	6.86	447.33	2.11	-69.41	185	60.4	0.250 U	52	0.189	1.0
MW-139R	12/15/11	51.33	6.99	258.44	2.69	70.00	114	35.2	0.250 U	5.0 U	0.027	0.0
MW-139R	12/18/12	49.36	6.93	258.61	4.11	196.75	85.2	16.3	0.260	3.0 U	0.0024	0.0
MW-139R	12/18/13	53.40	6.89	374.82	1.21	-103.26	139	33.8	0.250 U	5.6	0.0272	1.2
MW-139R	12/10/14	56.26	7.01	416.71	1.78	102.78	135	31	0.25 U	3.0 U	0.0185	0.1
MW-139R	07/27/17	63.47	6.88	467.67	0.29	--	NA	25.9	0.250 U	160	0.176	1.25
MW-139R	03/22/18	48.73	7.06	1,376	4.72	138.0	NA	NA	NA	NA	NA	NA
MW-139R	06/28/18	63.40	7.61	462.4	2.21	-92.5	NA	24.0	0.540	80	0.129	0
MW-139R	11/28/18	53.25	7.45	1,371	6.69	99.0	NA	58.4	1.700	3.0 U	0.005 U	0
MW-139R	06/18/19	59.19	7.06	38,257	7.24	153.8	NA	1,390	0.360 J	18	0.041	0
MW-139R	12/09/19	52.51	7.27	2,920	4.75	67.8	NA	135.0	0.480 J	11	0.002 J	0.5
MW-139R	06/24/20	59.69	6.93	16,387	3.45	200.2	NA	1,100	0.320 JH	3 U	0.002	0.5
MW-139R	11/03/20	55.27	7.09	27,560	7.87	103.8	NA	1,300	0.500	4.4 J	0.0021	0.0
MW-139R (Duplicate)	11/03/20	--	--	--	--	--	--	1,300	0.500	3.0 J	0.0028	--
MW-13U	12/14/12	23.38	33.19 [^]	53,947	2.96	-1,395.87	116	14.9	0.850	3.0 U	0.0019	0.0
MW-13U	12/20/13	52.45	6.25	181.31	2.40	-66.63	109	67.3	0.670	3.0 U	0.00073 U	0.0
MW-13U	12/10/14	57.94	6.48	281.43	3.25	147.77	104	16	0.950	3.0 U	0.001	0.0
MW-143	10/22/08	59.41	6.49	383.51	0.01	-49.00	142	34.4	0.200 U	2,210 D	1.26	5.4
MW-143	12/16/08	50.76	6.39	367.82	0.06	-73.14	194	12.9	0.200 U	7,630 D	3.82	3.2
MW-143	02/25/09	49.77	6.32	391.78	0.23	-61.12	229	1.5 U	0.250 U	18,000	4.47	4.2
MW-143	04/21/09	51.98	6.44	395.08	0.12	-167.60	220	1.8	0.250 U	17,000	4.28	5.8
MW-143	06/24/09	59.07	6.39	418.65	0.37	-130.39	210	1.5 U	0.250 U	15,000	3.67	6.0
MW-143	08/19/09	61.70	6.42	379.94	0.06	-84.88	182	9.1	0.250 U	4,100	1.86	2.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-143	10/27/09	60.32	6.35	356.97	0.17	-144.82	154	14.5	0.360	4,900	0.868	6.5
MW-143	10/27/10	59.34	6.56	268.76	0.51	-174.12	68.5	55.7	0.250 U	620	0.214	3.0
MW-143	12/14/11	52.72	6.36	392.01	0.08	-81.55	229	1.5 U	0.250 U	19,000	4.01	5.5
MW-143	12/20/12	52.68	6.34	403.71	0.10	-76.85	244	1.5 U	0.250 U	17,000	4.37	5.3
MW-143	12/18/13	53.20	6.34	398.11	1.18	-41.69	206	1.5 U	0.250 U	22,000	3.7	4.6
MW-143	12/10/14	55.73	6.39	595.43	1.10	-63.38	227	2	0.25 U	19,000	4.04	>10
MW-143	07/25/17	59.95	6.40	660.49	0.19	-55.3	NA	1.5 U	0.250 U	20,000	4.450	>7
MW-143	03/22/18	47.88	6.75	289.8	0.43	-83.0	NA	NA	NA	NA	NA	NA
MW-143	06/29/18	57.29	6.41	460.9	0.18	-96.6	NA	94.6	0.250 U	1,000	1.570	6
MW-143	11/30/18	55.58	6.41	318.0	0.06	-180.2	NA	1.5 U	0.250 U	6,200	1.140	7
MW-143	06/19/19	54.75	6.51	516.4	0.44	-42.7	NA	4.4 J	0.250 U	5,100	3.740	4.5
MW-143	12/11/19	53.05	6.45	261.6	0.57	-123.1	NA	19.7	0.250 U	1,900 E	1.370	5.5
MW-143	06/24/20	56.23	6.46	564.6	0.33	-14.7	NA	1.5 U	0.250 UH	12,000	3.700	7.0
MW-143	11/06/20	55.43	6.10	411.76	0.18	-60.3	NA	2.9 J F1	0.250 H F	11,000 F1	2.3	2.0
MW-147	10/21/08	58.43	6.24	516.46	-0.02	-18.40	131	67.2	0.200 U	330	2.38	5.2
MW-147	12/09/08	52.49	6.42	692.37	0.18	-104.13	301	141	0.200 U	895	4.16	6.4
MW-147	02/23/09	49.80	6.42	776.76	0.12	-93.21	407	111	0.250 U	1,000	4.86	5.4
MW-147	04/21/09	50.50	6.50	629.49	0.09	634.02	334	86.9	0.250 U	1,500	4.08	6.0
MW-147	06/23/09	55.54	6.50	696.30	0.04	-108.35	393	49.6	0.250 U	340	3.92	7.0
MW-147	08/18/09	60.57	6.46	605.85	0.06	-45.34	272	74.2	0.250 U	610	3.01	7.0
MW-147	10/26/09	58.00	6.35	518.53	0.10	-41.83	205	84.6	0.250 U	890	3.26	8.0
MW-147	10/26/10	56.07	6.34	426.81	0.20	-74.33	162	83.6	0.250 U	340	2.96	5.2
MW-147	12/13/11	52.52	5.99	440.75	0.12	-13.48	181	134	0.640	15	2.61	1.6
MW-147	12/14/12	52.59	6.05	399.49	3.72	141.88	147	144	0.250 U	5.4	3.61	3.6
MW-147	12/17/13	53.28	6.05	510.40	0.31	147.70	145	189	0.290	36	2.13	1.0
MW-147	12/09/14	52.65	5.95	466.27	4.61	229.44	92.3	136	0.250 U	3.0 U	1.190	0.1
MW-149R	10/21/08	58.41	6.56	521.83	0.09	-34.31	225	52.5	0.200 U	1,610 D	0.963	1.6
MW-149R	12/09/08	52.55	6.22	466.01	0.17	101.87	117	165	0.200 U	224	1.06	0.6
MW-149R	02/23/09	48.40	6.43	441.39	0.09	82.90	161	133	0.250 U	420	0.507	0.6
MW-149R	04/21/09	48.99	6.37	329.88	1.25	589.02	115	117	0.71	60	0.216	0.2
MW-149R	06/23/09	56.35	6.56	556.71	0.01	15.84	217	118	0.250 U	860	0.338	3.0
MW-149R	08/18/09	62.17	6.56	643.81	0.15	-22.07	256	121	0.250 U	1,100	0.48	3.0
MW-149R	10/26/09	58.37	6.21	404.24	3.57	203.93	76.4	160	1.600	7.9	0.0113	1.0
MW-149R	10/26/10	57.49	6.36	501.89	0.55	50.72	150	135	0.770	28	0.14	0.5
MW-149R	12/13/11	50.53	6.39	277.74	0.67	210.00	79.1	122	1.6	5.0 U	0.0163	0.0
MW-149R	12/14/12	49.79	6.42	442.76	5.35	227.31	154	172	0.770	3.0 U	0.0074	0.5
MW-149R	12/17/13	51.91	6.32	446.22	0.22	150.77	83.2	128	1.5	3.0 U	0.0051	1.0
MW-149R	12/09/14	51.67	6.41	306.80	5.37	258.01	84.7	57	1.800	3.0 U	0.001	0.1
MW-150	10/21/08	58.35	6.52	748.62	-0.05	25.37	444	68.7	0.200 U	622	1.52	1.4
MW-150	12/09/08	52.71	6.54	761.44	0.20	32.64	440	134	0.200 U	389	1.52	1.8
MW-150	02/23/09	48.38	6.56	586.85	0.14	71.82	371	101	0.250 U	180	1.24	1.0
MW-150	04/21/09	48.86	6.69	570.05	0.15	-80.49	341	86.5	0.250 U	50	1.14	1.0
MW-150	06/23/09	57.16	6.77	569.79	0.27	31.03	347	60.8	0.250 U	220	0.945	1.0
MW-150	08/18/09	62.67	6.61	708.96	0.06	-5.64	403	69.3	0.250 U	350	1.24	1.8

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-150	10/26/09	58.83	6.64	587.23	0.96	70.66	316	73	0.380	51	0.295	1.0
MW-150	10/26/10	58.28	6.34	2,521,507	0.60	33.14	347	63.6	1.1	110	0.812	1.8
MW-150	12/13/11	51.57	6.54	619.48	0.06	3.17	390	89.4	0.380	150	1.37	2.0
MW-150	12/14/12	51.94	6.59	409.93	0.48	101.66	263	41.1	0.250 U	26.0	0.179	0.0
MW-150	12/17/13	52.39	6.55	822.42	0.29	19.61	386	64.6	0.250 U	980	2.24	3.0
MW-150	12/09/14	54.45	6.39	591.47	1.31	235.42	309	54	0.250 U	280	0.440	0.1
MW-203	12/17/12	51.62	6.23	197.93	5.66	229.49	79.1	10.2	2.0	3.0 U	0.00083	NA
MW-203	12/19/13	48.13	6.33	143.10	4.97	2.03	80.7	9.2	1.9	3.0 U	0.0021	1.5
MW-203	12/10/14	53.67	6.35	233.78	5.29	130.18	77.1	11	2.300	3.0 U	0.001 U	0.1
MW-20R	10/22/08	55.85	6.68	10,026	0.15	-63.43	306	283	0.200 U	771	2.97	6.0
MW-20R	12/10/08	54.77	6.63	7,040	0.00	-88.61	263	238	0.200 U	886	1.63	4.0
MW-20R	02/24/09	49.87	6.89	2,668	0.11	-94.36	271	77.7	0.250 U	3,300	0.404	2.0
MW-20R	04/22/09	48.29	6.77	1,614	0.53	-71.76	250	33.6	0.250 U	2,800	0.293	5.5
MW-20R	06/24/09	54.32	6.73	6,859	0.44	-54.70	234	287	0.39	160	1.24	3.5
MW-20R	08/19/09	58.26	6.72	12,574	0.18	-122.78	229	592	0.250 U	900	2.49	6.0
MW-20R	10/27/09	57.49	6.43	11,375	0.61	-95.09	153	520	2.80	340	1.41	2.0
MW-20R	10/27/10	57.29	6.80	30,823	0.07	-143.50	128	1,710	1.2	51	0.839	2.6
MW-20R	12/14/11	53.47	6.56	10,516	-0.01	-39.92	220	566	0.250 U	1,400	0.488	2.6
MW-20R	12/17/12	51.84	5.76	177.51	7.57	236.30	39.9	63.6	0.250 U	3.0 U	0.127	0.5
MW-20R	12/18/13	53.27	6.72	6,773	0.07	-113.24	231	315	0.250 U	1,400	0.22	0.6
MW-20R	12/10/14	55.64	6.44	5,415	2.64	-208.01	129	232	0.25 U	140	0.116	0.1
MW-20R	07/26/17	58.29	6.51	17,957	3.14	40.8	NA	835	0.250 U	410	1.520	4.75
MW-20R	03/22/18	48.65	6.81	9,009	0.58	-13.0	NA	NA	NA	NA	NA	NA
MW-20R	06/29/18	55.83	7.05	9,558	0.17	-149.2	NA	344.0	0.250 U	160	0.526	2
MW-20R	11/29/18	55.71	6.84	12,493	1.48	-85.7	NA	426.0	0.250 U	80	0.354	2
MW-20R (Duplicate)	11/29/18	--	--	--	--	--	NA	473.0	0.250 U	86	0.353	NA
MW-20R	06/19/19	55.17	6.79	22,038	0.20	61	NA	1,350	0.250 U	120	0.746	1.0
MW-20R (Duplicate)	06/19/19	--	--	--	--	--	NA	1,420	0.250 U	92	0.680	NA
MW-20R	12/12/19	54.47	6.75	22,661	0.05	-48.7	NA	778.0	0.250 U	630	0.744	6
MW-20R	07/01/20	56.13	6.57	25,377	0.00	-173.2	NA	1,100	0.050 U	71	0.570	0
MW-20R	11/06/20	56.57	6.60	26,169	0.25	-161.3	NA	1,100 F1	0.250 UH	100	0.6	2.5
MW-500	10/27/08	60.04	6.44	4,500	0.05	-10.17	977	172	0.200 U	8,590 D	0.97	4.2
MW-500	12/15/08	48.50	6.73	641.64	0.50	76.79	362	134	0.23	1,940 D	0.511	0.0
MW-500	02/27/09	44.74	6.77	475.25	0.29	111.07	334	37.7	0.250 U	6,400	0.2	1.2
MW-500	04/24/09	50.90	6.73	339.34	0.44	-143.85	263	18.6	0.250 U	39	0.0808	0.4
MW-500	06/29/09	59.99	6.38	1,002	-0.08	-44.59	464	17,900	0.250 U	16,000	1,340	3.0
MW-500	08/21/09	67.41	6.38	1,342	0.10	-233.97	647	2.20	0.250 U	15,000	1.82	2.5
MW-500	10/29/09	59.42	6.42	734.24	0.16	-104.24	362	131	0.350	13,000	1.97	1.5
MW-500	11/01/10	58.82	6.16	735.00	0.07	-145.52	451	22.4	0.250 U	12,000	1.8	5.5
MW-500	12/16/11	52.50	6.26	1,101,367	0.13	-103.35	175	4.3	0.250 U	9,400	0.344	5.2
MW-500	12/19/12	49.54	6.97	120.55	7.19	124.35	86.8	4.6	0.350	3.0 U	0.0012	0.6
MW-500	12/20/13	47.66	6.09	2,126	7.41	-25.52	401	1.5 U	0.250 U	19,000	1.38	0.14
MW-500	12/11/14	51.79	6.62	243.84	0.59	11.00	98.5	8	0.250 U	8,400	0.100	0.2
MW-501	10/24/08	60.21	6.53	3,806	-0.02	-27.98	1,700	59.2	0.200 U	10,500 DJ	3.49	5.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-501	12/15/08	51.44	6.66	475.85	4.55	91.22	269	55.4	1.73	92	0.0552	0.0
MW-501	03/02/09	49.42	6.49	434.37	2.35	216.95	317	34.7	1.2	56	0.67	0.8
MW-501	04/24/09	51.05	6.53	374.33	1.03	-42.42	248	29.7	0.250 U	140	0.694	1.0
MW-501	06/26/09	59.01	6.40	1,026	0.04	37.36	NA	12.6	0.250 U	16,000	2.8	0.0
MW-501	08/21/09	67.17	6.44	1,361	0.19	-47.09	752	2.7	0.250 U	13,000	5	7.0
MW-501	10/29/09	58.23	6.43	366.98	0.24	-105.85	242	26.1	0.250 U	380	4.9	5.0
MW-501	11/01/10	59.18	6.26	844.99	0.10	-102.31	509	1.5 U	0.250 U	14,000	4.95	7.2
MW-501	12/16/11	52.30	6.31	1,364,321	0.02	-162.31	219	5.8	0.250 U	1,400	1.65	4.2
MW-501	12/19/12	50.03	6.29	135.87	3.04	-19.66	82.5	3.0	0.250 U	220	0.0812	1.0
MW-501	12/20/13	46.25	6.22	352.27	0.51	80.35	247	11.2	0.250 U	17,000	2.45	5.5
MW-501	12/11/14	52.36	6.24	312.79	0.07	-115.67	118	4	0.250 U	4,400	1.530	5.0
MW-502	10/24/08	59.77	6.31	558.51	0.05	-36.88	98	70.2	0.200 U	99 D	1.1	6.4
MW-502	12/12/08	53.20	6.36	482.08	0.04	-33.02	87.2	63.4	0.200 U	67	0.739	3.0
MW-502	02/25/09	48.02	6.37	343.38	0.11	-24.32	67.9	56.8	0.250 U	53	0.681	6.4
MW-502	04/22/09	50.96	6.36	314.18	0.03	226.34	67.7	48	0.250 U	40	0.635	7.0
MW-502	06/26/09	61.26	6.37	379.61	0.14	-57.95	95	52.8	0.250 U	33	0.627	6.5
MW-502	08/21/09	64.60	6.17	364.92	0.10	-38.59	107	27.6	0.250 U	20 P	0.585	6.0
MW-502	10/28/09	60.10	6.34	413.99	0.14	-65.94	153	41.4	0.250 U	45	0.568	6.0
MW-502	10/28/10	59.88	6.09	377.99	0.11	31.93	100	30.2	0.250 U	5.2	0.407	4.8
MW-502	12/16/11	53.40	6.12	280.64	0.05	127.40	84.3	31.4	0.250 U	5.7	0.244	0.8
MW-502	12/19/12	49.12	6.13	201.10	0.50	100.97	101	27.4	1.2	56	0.149	1.0
MW-502	12/20/13	50.47	6.26	431.25	0.10	33.60	79	34	0.250 U	3.0	0.355	3.6
MW-502	12/11/14	51.82	6.20	390.23	0.75	206.18	118	26	2.8	3.0 U	0.0724	0.1
MW-502	07/26/17	58.28	6.24	315.05	0.14	48.2	NA	29.1	0.250 U	3.0 U	0.258	4.25
MW-502 (Duplicate)	07/26/17	--	--	--	--	--	--	26.9	0.250 U	3.0 U	0.251	--
MW-502	03/21/18	48.61	6.54	283.9	0.06	50.7	NA	NA	NA	NA	NA	NA
MW-502	06/27/18	57.25	5.96	274.6	0.02	17.7	NA	23.0	0.250 U	5.2	0.247	3
MW-502	11/28/18	54.31	6.25	260.7	0.18	92.1	NA	19.2	2.400	3.0 U	0.208	2
MW-502	06/18/19	54.78	6.41	233.5	0.38	44.3	NA	24.0	0.250 U	6.6	0.254	2.0
MW-502 (Duplicate)	06/18/19	--	--	--	--	--	NA	23.6	0.250 U	4.5 J	0.250	NA
MW-502	12/09/19	52.97	6.35	266.1	0.18	-28.8	NA	21.7	0.250 U	3.5 J	0.261	2.5
MW-502	07/01/20	56.22	6.34	273.0	0.07	56.5	NA	4.7	0.050 U	3.0 U	0.290	0.5
MW-502	11/03/20	55.41	6.19	0.07	8.61	108.5	NA	20.0	0.250 U	3.0 U	0.28	1.0
MW-503	10/27/08	58.09	6.21	359.03	0.00	-44.22	189	8.44	0.200 U	478	0.139	3.0
MW-503	12/12/08	54.35	6.36	302.27	0.07	-38.20	169	9.51	0.200 U	306	0.188	4.6
MW-503	02/26/09	50.47	6.29	280.63	0.12	-14.44	155	11.8	0.250 U	210	0.196	2.0
MW-503	04/22/09	51.85	6.36	273.33	0.02	259.93	152	12.3	0.250 U	150	0.245	7.0
MW-503	06/26/09	55.34	6.36	281.37	0.05	-56.57	156	16.3	0.250 U	190	0.225	6.5
MW-503	08/21/09	60.08	6.34	311.25	0.02	-37.47	158	11.7	0.250 U	180 P	0.238	7.0
MW-503	10/28/09	58.50	6.31	314.43	0.04	-44.90	159	12.1	0.250 U	190	0.241	10.0
MW-503	10/28/10	58.32	6.18	512.56	0.10	-23.74	145	14.9	0.250 U	180	0.318	5.6
MW-503	12/15/11	54.30	6.26	443.34	0.00	-17.75	137	24.2	0.250 U	130	0.478	5.2
MW-503	12/18/12	55.26	6.22	494.81	0.02	-90.25	155	37.8	0.250 U	100	0.534	1.0
MW-503	12/19/13	55.23	6.14	1,265	0.01	-23.91	145	40.3	0.250 U	74	0.567	5.2

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-503	12/11/14	55.83	6.28	651.61	0.15	-21.99	142.0	38.5	0.250 U	61	0.518	9.5
MW-503	03/21/18	52.02	6.53	499.9	0.06	-50.4	NA	NA	NA	NA	NA	NA
MW-503	06/28/18	57.51	6.22	511.0	0.17	-69.8	NA	35.2	0.250 U	140	0.608	4
MW-503 (Duplicate)	06/28/18	--	--	--	--	--	--	33.5	0.250 U	140	0.584	--
MW-503	11/28/18	58.90	6.51	492.8	0.03	-90.4	NA	31.9	0.250 U	95	0.543	6
MW-503	06/18/19	63.47	6.92	0.1	9.10	8.8	NA	30.1	0.420 J	90	0.520	5.0
MW-503	12/09/19	56.18	6.45	416.7	0.16	-31.1	NA	25.5	0.250 U	67.0	0.489	6.5
MW-503	06/25/20	57.45	6.48	434.3	0.08	23.5	NA	240.0	0.250 U	79.0	0.520	1.5
MW-503	11/03/20	58.88	6.37	398.47	0.20	-68.2	NA	22.0	0.250 U	96	0.46	6.0
MW-504	10/24/08	58.92	6.73	1,158	0.08	5.06	435	64.2	0.200 U	1,970 D	3.24	0.8
MW-504	12/12/08	49.76	6.98	958.10	0.24	36.78	261	188	0.71	269	1.14	0.2
MW-504	02/27/09	46.92	7.04	572.72	0.28	473.30	251	119	0.4	120	0.376	0.2
MW-504	04/24/09	49.13	7.08	566.26	0.92	-47.37	227	129	0.71	56	0.228	0.2
MW-504	06/26/09	59.97	7.08	595.29	0.14	33.80	274	106	0.250 U	170	0.419	0.0
MW-504	08/21/09	66.52	6.88	797.96	0.04	28.06	338	84.7	0.250 U	840	1.19	0.0
MW-504	10/28/09	60.48	6.81	637.65	0.41	52.25	311	86.7	0.650	380	0.676	1.5
MW-504	10/28/10	60.75	6.76	786.39	0.73	-63.57	301	47.8	0.250 U	180	0.804	0.5
MW-504	12/16/11	54.30	6.83	412.10	0.96	153.17	225	66.3	0.250 U	170	0.4	0.0
MW-504	12/18/12	48.08	7.44	235.83	8.60	69.47	115.0	8.4	0.250 U	3.0 U	0.0015	0.0
MW-504	12/19/13	53.95	6.22	351.95	0.03	-40.96	223	17	0.250 U	700	1.08	2.0
MW-504	12/11/14	50.76	7.15	309.59	6.81	72.46	115	16	0.25 U	620	0.0011	0.1
MW-504	07/26/17	62.32	6.84	420.98	0.10	46.3	NA	12.0	0.250 U	570	0.650	0.0
MW-504	03/21/18	49.63	7.14	1,912	4.41	73.8	NA	NA	NA	NA	NA	NA
MW-504	06/28/18	60.45	7.02	1,577	0.36	-54.7	NA	51.9	0.250 U	450	1.920	1.5
MW-504	11/28/18	54.44	7.06	839.44	9.20	43.2	NA	39.0	0.750	15	0.443	0.0
MW-504	06/18/19	60.68	6.65	11,684	0.83	17.3	NA	508.0	0.480 J	610	7.010	2.5
MW-504	12/09/19	55.24	6.84	6,204	0.96	-22.6	NA	259.0	0.960	160.0	0.641	1.0
MW-504	06/25/20	60.37	6.82	5,151	0.44	42.5	NA	93.0 F1	0.250 U	61.0 F1	1.400	0.5
MW-504	11/05/20	60.22	6.91	6,247.1	1.38	1.5	NA	270.0	0.340 JH	76	1.1	2.0
MW-505	10/24/08	56.61	6.77	1,292	0.42	23.88	289	119	0.54	961	2.41	0.6
MW-505	12/15/08	51.14	6.89	823.56	2.25	68.13	216	144	0.63	219	1.42	0.0
MW-505	02/27/09	46.85	6.85	659.23	2.72	182.77	181	167	0.39	130	1.16	0.0
MW-505	04/22/09	49.75	7.04	586.48	1.48	-144.75	184	134	0.43	100	1.1	0.0
MW-505	06/26/09	62.11	7.01	637.54	1.42	-17.29	190	133	0.34	190	9.11	0.5
MW-505	08/21/09	64.00	6.88	719.54	0.60	-15.81	185	72.9	0.25 U	190 P	0.997	1.0
MW-505	10/28/09	57.61	6.87	620.60	1.83	26.22	187	136	0.38	230	1.1	0.5
MW-505	10/29/10	59.58	6.75	613.95	0.05	-59.16	219	58.6	0.25 U	1,000	1.17	1.8
MW-505	12/15/11	53.63	6.77	530.14	0.65	0.00	245	92.3	0.25 U	390	1.41	1.2
MW-505	12/18/12	52.29	6.91	260.87	6.66	71.61	125	69.7	0.250 U	5.0	0.143	1.0
MW-505	12/19/13	53.04	6.25	1,301	0.01	-8.82	237	66.3	0.250 U	490	1.24	2.5
MW-505	12/11/14	52.91	6.87	328.26	5.83	138.69	97.8	21	0.25 U	460	0.366	0.2
MW-505	07/26/17	63.49	6.78	542.29	0.18	-19.6	NA	44.4	0.250 U	1,300	1.230	3.5
MW-505	03/21/18	51.98	6.83	2,016	0.05	-98.7	NA	NA	NA	NA	NA	NA
MW-505	06/28/18	60.95	6.72	845.44	0.31	-96.3	NA	40.4	0.250 U	530	0.871	5.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-505	11/28/18	53.45	6.88	2,025	3.27	-29.5	NA	83.2	0.250 U	480	1.520	4.5
MW-505	06/19/19	59.47	6.67	12,193	0.30	-29.7	NA	483.0	0.250 U	1,100	11.000	6.0
MW-505	12/09/19	55.13	6.71	5,496	0.34	-89.2	NA	253.0	0.250 U	2,000	3.670	3.5
MW-505	06/25/20	61.58	6.70	5,457	0.16	13.2	NA	180.0	0.250 U	1,500	2.500	0.5
MW-505	11/04/20	61.73	6.67	9,281.7	0.13	-187.8	NA	420.0	0.250 UH	630	3.9	4.5
MW-506	10/24/08	58.38	6.90	851.73	-0.03	-3.02	238	147	0.200 U	2,820 D	1.42	0.8
MW-506	12/12/08	49.85	6.88	863.65	0.35	52.81	186	90.7	0.21	1,770 D	1.61	0.4
MW-506	02/27/09	47.32	7.10	363.65	0.50	76.54	121	59.9	0.56	140	0.105	0.0
MW-506	04/24/09	48.74	7.12	272.22	0.56	-138.25	115	53.6	1	36	0.0139	0.0
MW-506	06/26/09	57.74	7.11	601.49	0.11	85.41	183	74.3	320	1,800	0.135	0.0
MW-506	08/21/09	62.46	7.06	329.13	0.07	46.69	141	28.1	0.25 U	2,200	0.434	0.5
MW-506	10/30/09	59.70	6.89	363.42	0.37	4.84	132	71.7	0.25 U	1,600	0.729	0.5
MW-506	10/29/10	58.82	6.83	518.80	0.09	-28.40	207	29.8	0.25 U	5,200	1.97	0.6
MW-506	12/15/11	52.57	7.04	283.39	0.15	38.13	183	36.1	0.85	140	0.273	0.0
MW-506	12/19/12	51.08	6.94	226.17	4.59	158.02	143	27.1	0.250 U	42	0.0897	0.0
MW-506	12/19/13	52.82	6.75	422.56	0.03	-38.21	192	17.8	0.25 U	2,700	2.15	1.0
MW-506	12/11/14	54.27	7.29	429.59	6.55	110.57	153	32	1	45	0.139	0.1
MW-506	07/27/17	59.29	6.98	416.24	0.12	92.70	NA	4.3	0.250 U	4,900	1.6300	0.5
MW-506	03/21/18	49.25	7.17	499.96	0.16	-4.80	NA	NA	NA	NA	NA	NA
MW-506 (Duplicate)	03/21/18	--	--	--	--	--	NA	NA	NA	NA	NA	NA
MW-506	06/28/18	60.59	6.92	522.39	0.27	-86.9	NA	1.5 U	0.250 U	12,000	0.994	4.0
MW-506	11/28/18	57.09	6.86	587.37	0.57	-54.5	NA	19.8	0.250 U	12,000	1.180	3.0
MW-506	06/19/19	59.92	6.66	703.5	0.16	-75.1	NA	11.7	0.250 U	16,000	1.880	3.5
MW-506	12/09/19	54.37	6.87	4,577	0.04	-125.5	NA	142.0	0.250 U	11,000	7.400	5.5
MW-506	06/24/20	58.44	6.65	4,907	0.51	-102.2	NA	120.0	0.250 UH	6,600	5.300	6.0
MW-506	11/05/20	59.18	6.72	6,190.4	0.13	-203.6	NA	140.0	0.250 UH	5,400	7.6	5.0
MW-507	10/24/08	58.31	6.54	642.48	0.01	-93.26	214	80.7	0.200 U	1,110 D	5.1	6.0
MW-507	12/12/08	52.21	6.61	795.60	0.07	-46.04	297	151	0.200 U	850	3.31	3.8
MW-507	02/27/09	48.70	6.51	909.55	0.26	37.35	290	279	0.250 U	1,600	3.97	3.2
MW-507	04/24/09	51.10	6.53	992.50	0.14	-38.69	293	364	0.250 U	1,600	3.4	3.0
MW-507	06/26/09	56.60	6.52	1,351	0.03	-29.33	252	282	0.250 U	1,100	4.27	7.0
MW-507	08/21/09	61.75	6.48	964.71	0.20	-46.15	279	297	0.250 U	2,300	6.04	7.0
MW-507	10/28/09	59.50	6.59	1,035	0.38	-20.79	350	302	0.250 U	280	3.39	2.0
MW-507	10/29/10	59.85	6.62	1,098	0.36	-66.97	347	243	0.250 U	59	1.67	1.5
MW-507	12/16/11	54.20	6.65	843.34	0.21	113.30	307	314	0.250 U	150	1.4	0.8
MW-507	12/19/12	48.76	6.65	809.79	1.61	6.98	213	174	0.330	6.7	0.175	1.5
MW-507	12/19/13	53.46	6.55	1,088	0.08	-76.22	365	203	0.250 U	250	1.08	1.2
MW-507	12/11/14	53.84	6.62	863.67	3.13	-97.50	218	171	0.68	3.0 U	0.0288	0.1
MW-507	07/27/17	60.09	6.74	905.45	0.42	197.4	NA	142	0.250 U	22	0.746	1.75
MW-507 (Duplicate)	07/27/17	--	--	--	--	--	--	142	0.250 U	37	0.689	--
MW-507	03/21/18	49.19	6.99	799.40	2.63	283.0	NA	NA	NA	NA	NA	NA
MW-507	06/28/18	59.42	6.78	908.98	0.57	106.8	NA	162.0	0.250 U	100	0.197	0.0
MW-507	11/28/18	56.47	6.81	782.13	5.82	130.4	NA	144.0	2.400	3.9	0.084	0.5
MW-507	06/19/19	58.45	6.60	910.97	0.28	202.7	NA	172.0	0.250 U	59	0.078	0.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-507 (Duplicate)	06/19/19	--	--	--	--	--	NA	206.0	0.250 U	54	0.069	0.0
MW-507	12/09/19	56.02	6.82	1,052	0.43	100.4	NA	134.0	0.250 U	53	0.945	0.0
MW-507	06/24/20	59.91	6.66	992.9	0.38	52.6	NA	240.0	0.250 UH	13.0	0.014	1.0
MW-507	11/05/20	60.40	6.94	776.92	0.14	10.8	NA	40.0	0.250 UH	460	4.7	0.0
MW-509	10/23/08	59.60	6.62	489.68	0.23	44.82	185	66	0.26	514	0.926	0.4
MW-509	12/11/08	50.47	6.83	445.56	1.34	113.25	90	66.2	1.92	52.5	0.45	0.4
MW-509	02/25/09	44.22	6.98	256.98	6.04	391.88	80.8	44.4	0.250 U	5.0 U	0.0127	0.2
MW-509	04/23/09	51.31	7.07	192.88	4.78	-52.52	74.8	40.6	0.250 U	10 U	0.0063	0.0
MW-509	06/25/09	64.34	6.98	321.70	0.12	-14.93	117	55.9	0.250 U	9.0	0.0996	0.5
MW-509	08/21/09	67.68	6.90	365.42	0.21	-268.87	129	38.9	0.250 U	120	0.365	0.5
MW-509	10/28/09	57.40	6.80	219.09	2.56	99.13	95.8	29.5	0.250 U	29	0.131	0.0
MW-509	10/28/10	59.45	6.71	387.07	0.40	68.41	128	43.5	0.250 U	20	0.113	0.4
MW-509	12/15/11	49.65	6.86	236.46	1.05	90	108	43.5	0.250 U	5.0 U	0.0413	0.0
MW-509	12/19/12	49.43	7.01	138.92	6.55	131.63	81.7	14.8	0.250 U	3.0 U	0.007	0.7
MW-509	12/19/13	49.66	6.79	225.92	0.62	144.66	184	50.4	0.250 U	240	0.222	0.0
MW-509	12/11/14	52.90	6.60	108.65	5.60	158.07	44.1	6	0.25 U	3.0 U	0.0168	0.1
MW-509	07/27/17	65.33	6.76	415.49	0.39	-3.6	NA	49.3	0.250 U	170	0.427	0.5
MW-509	03/21/18	48.85	8.65	0.38	11.36	148.3	NA	NA	NA	NA	NA	NA
MW-509	06/28/18	63.93	6.84	2,235	0.56	72.8	NA	73.1	0.250 U	12	0.168	0.0
MW-509	11/28/18	54.96	6.89	4,102	3.14	78.0	NA	193.0	1.400	50	0.057	0.0
MW-509	06/19/19	61.37	6.74	24,454	1.37	213.8	NA	1,740	0.320 J	3.0 U	0.031	0.5
MW-509	12/09/19	51.02	7.05	1.1	11.91	98.3	NA	137.0	0.410 J	91.0	0.180	0.0
MW-509	06/25/20	62.01	6.71	34,504	1.43	76.7	NA	1,400	0.250 U	3.0 U	0.013	0.0
MW-509	11/05/20	58.95	6.88	31,336	1.72	69.2	NA	1,500	0.440 JH	3.0 U	0.0036	0.0
MW-511	10/24/08	55.73	6.59	248.56	0.41	25.86	122	23.1	0.35	1.63	0.289	0.2
MW-511	12/12/08	51.90	6.44	235.10	1.84	122.09	110	25.2	0.94	1.2 U	0.446	0.2
MW-511	02/25/09	48.43	6.12	350.22	3.73	140.09	77.9	23.3	1.1	5.0 U	0.169	0.0
MW-511	04/21/09	49.64	6.23	240.99	4.34	143.96	77.3	30.4	0.93	5.0 U	0.0887	0.0
MW-511	06/24/09	54.46	6.27	213.52	2.87	178.32	87.1	27.2	0.94	6.4	0.0855	NA
MW-511	08/19/09	58.96	6.30	211.69	3.17	145.06	86.1	22.3	0.94	5.4	0.0573	0.5
MW-511	10/28/09	54.96	6.20	211.44	3.68	91.82	94.4	23.2	1.4	5.0 U	0.0439	0.0
MW-511	10/28/10	55.71	6.26	263.83	3.75	26.79	88.4	24.2	830	5.0 U	0.0046	0.1
MW-511	12/19/11	50.80	6.30	255.22	5.16	196.26	95.2	31.9	0.72	10 U	0.0015	0.0
MW-511	12/14/12	50.49	-18.06 [^]	399.71	4.93	1,408	112	28.5	0.250 U	3.00 U	0.0026	0.5
MW-511	12/19/13	51.27	6.67	319.02	3.01	23.45	114	28.4	0.25 U	3.0 U	0.00073 U	NA
MW-511	12/10/14	53.78	6.47	376.51	2.53	160.12	122	30	0.25 U	3.2	0.0016	0.0
MW-511	07/27/17	55.41	6.20	300.62	1.78	148.0	NA	19.2	1.000	3.0 U	0.008	0.0
MW-511	03/21/18	49.82	6.47	225.31	3.63	190.8	NA	NA	NA	NA	NA	NA
MW-511	06/27/18	54.33	6.47	272.15	0.77	84.2	NA	22.6	0.250 U	3.0 U	0.056 U	0.0
MW-511	11/29/18	58.70	8.17	1.72	10.43	90.3	NA	18.2	0.340	3.0 U	0.005 U	NA
MW-511	06/18/19	53.86	6.70	307.2	3.98	46.7	NA	31.3	0.660	3.0 U	0.005 U	0.0
MW-511	12/09/19	52.57	6.47	102.4	3.33	4.8	NA	24.0	0.870	3.0 U	0.002	0.0
MW-511	07/01/20	54.51	6.41	277.2	5.51	61.9	NA	22.0	0.810	3.0 U	0.001 J	0.0
MW-511	11/03/20	54.41	5.99	265.48	3.32	210.1	NA	20.0	0.710	3.0 U	0.0019 J	0.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-512	10/23/08	60.03	6.54	396.67	-0.04	14.55	150	30.8	0.200 U	1,200 D	1.56	1.2
MW-512	12/11/08	53.48	6.58	480.74	0.01	-48.08	199	31.4	0.200 U	765	2.3	2.0
MW-512	02/25/09	47.91	6.59	441.66	0.64	-3.83	205	34.3	0.250 U	1,200	1.15	2.6
MW-512	04/21/09	51.96	7.05	460.06	0.37	-144.28	179	52.3	0.28	2,100	0.775	2.0
MW-512	06/24/09	61.82	6.65	368.86	0.38	-40.13	152	37	0.250 U	720	0.367	2.0
MW-512	08/19/09	66.20	6.55	346.88	0.23	-23.55	127	33.6	0.250 U	1,200	0.324	2.0
MW-512	10/27/09	59.92	6.66	369.90	2.04	-47.20	157	37.5	0.450	1,600	0.351	1.0
MW-512	10/28/10	59.67	6.72	444.53	0.88	-131.58	164	23.4	0.250 U	930	0.414	2.0
MW-512	12/15/11	51.70	6.90	306.64	0.02	-92.48	174	23.7	0.250 U	1,400	0.556	3.2
MW-512	12/17/12	52.54	6.87	508.74	0.59	-98.08	191	22.6	0.250 U	1,900	0.485	5.0
MW-512	12/18/13	52.11	6.78	291.10	0.13	-66.95	178	17.6	0.250 U	1,000	0.662	2.6
MW-512	12/11/14	53.99	6.89	568.20	6.52	-199.75	181	15	0.25 U	1,700	0.635	0.1
MW-512	07/26/17	61.67	6.99	558.10	0.15	-95.0	NA	9.3	0.250 U	1,300	0.433	5.0
MW-512	03/21/18	49.30	7.09	305.81	0.42	15.80	NA	NA	NA	NA	NA	NA
MW-512 (Duplicate)	03/21/18	--	--	--	--	--	NA	NA	NA	NA	NA	NA
MW-512	06/28/18	62.12	6.80	376.27	1.71	64.6	NA	21.3	0.280	68	0.039	0.0
MW-512 (Duplicate)	06/28/18	--	--	--	--	--	--	22.5	0.250 U	42	0.043	--
MW-512	11/29/18	56.20	6.78	602.89	1.46	-25.2	NA	38.7	0.320	93	0.511	1.0
MW-512	06/18/19	61.14	6.71	3,304	1.16	1.5	NA	116.0	0.250 U	340	3.740	4.5
MW-512	12/09/19	53.16	6.79	3,308	0.31	-81.4	NA	83.4	0.250 U	990	2.730	4.0
MW-512	06/25/20	59.78	6.66	703.9	0.13	-33.2	NA	17.0 B	0.250 U	220.0	500.000	0.0
MW-512	11/03/20	60.16	6.29	3,149.1	0.07	-36.6	NA	47.0	0.250 U	1,200	2.2	3.5
MW-513	10/23/08	58.08	6.78	405.45	-0.06	-63.03	182	19.3	0.200 U	523	2.09	2.0
MW-513	12/10/08	55.20	6.73	491.21	-0.06	-103.79	197	23.9	0.200 U	465	2.18	2.8
MW-513	02/25/09	49.12	6.76	342.53	0.10	-45.95	210	14.8	0.250 U	490	1.9	2.4
MW-513	04/22/09	50.10	6.81	342.40	0.12	-225.74	182	26.6	0.250 U	650	1.89	3.5
MW-513	06/24/09	59.64	6.82	321.78	0.09	-89.07	167	13.1	0.28	300	1.38	3.0
MW-513	08/20/09	62.58	6.73	343.96	0.11	-81.20	168	15.5	0.250 UW	320 P	1.38	2.8
MW-513	10/27/09	59.76	6.73	374.84	0.08	-96.67	178	24.3	0.250 U	550	1.8	4.0
MW-513	10/28/10	58.03	6.63	395.68	0.10	-103.39	164	11.2	0.250 U	690	1.36	3.8
MW-513	12/15/11	52.17	6.69	289.77	0.05	-60	156	16.7	0.250 U	370	1.28	3.1
MW-513	12/17/12	52.34	6.69	280.90	0.29	-82.64	159	10.4	0.250 U	920	1.17	4.1
MW-513	12/18/13	54.18	6.69	188.41	-0.01	-77.71	182	8.9	0.250 U	840	1.29	3.9
MW-513	12/10/14	55.63	6.75	471.76	-0.01	-59.79	171	13	0.25 U	790	1.07	5.0
MW-513	07/25/17	62.95	6.47	469.48	0.11	7.6	NA	11.8	0.250 U	460	1.050	4.5
MW-513	03/21/18	52.20	6.78	2,190	1.11	-61.7	NA	NA	NA	NA	NA	NA
MW-513	06/28/18	59.39	6.72	1,558	0.10	-81.9	NA	34.3	0.250 U	610	1.330	5.5
MW-513	11/29/18	55.74	6.81	2,541	0.41	-75.2	NA	38.9	0.500	450	1.870	5.5
MW-513	06/17/19	59.69	6.73	10,096	1.20	-28.2	NA	514.0	0.250 U	460	6.910	NA
MW-513	12/09/19	55.41	6.62	11,620	2.85	-62.9	NA	529.0	0.250 U	240	6.310	6.5
MW-513	06/25/20	58.72	6.63	7,385	0.92	-42.6	NA	260.0	0.250 U	190.0	4.000	0.0
MW-513	11/04/20	61.37	6.65	16,112	0.31	-32.0	NA	500.0	0.250 UH	280	5.7	5.0
MW-514	10/23/08	59.15	6.81	368.79	-0.05	-69.84	182	17.4	0.23	200	1.62	2.2
MW-514	12/10/08	55.53	6.74	410.41	0.01	-105.01	191	29.2	0.200 U	428	2.89	2.8

Table 3-5
 Summary of Groundwater Analytical Data
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 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-514	02/24/09	50.68	6.74	330.80	0.15	-84.41	189	21.5	0.250 U	680	2.07	2.2
MW-514	04/21/09	51.33	6.83	345.19	0.43	-150.08	176	28.5	0.250 U	710	1.93	4.0
MW-514	06/24/09	60.09	6.89	340.42	0.21	-133.74	167	17.8	0.31	400	1.54	3.0
MW-514	08/19/09	64.22	6.77	362.34	0.10	-88.48	153	12.7	0.250 U	580	1.47	4.0
MW-514	10/27/09	60.17	6.72	342.77	0.18	-90.96	169	13.8	0.250 U	690	1.67	4.0
MW-514	10/27/10	58.93	6.62	403.73	0.07	-128.19	160	19.2	0.250 U	210	1.94	4.2
MW-514	12/14/11	51.76	6.53	389.84	0.10	-0.09	152	19.3	0.250 U	340	1.69	3.0
MW-514	12/17/12	53.14	6.55	396.25	0.39	-101.68	162	20.4	0.250 U	390	1.510	4.0
MW-514	12/18/13	53.06	6.58	175.41	0.01	-56.60	155	16.9	0.250 U	420	1.68	2.4
MW-514	12/11/14	54.02	6.62	454.38	0.27	-226.67	151	17.1	0.25	360	1.47	2.0
MW-514	07/27/17	64.48	6.73	352.17	0.29	15.5	NA	11.1	0.250 U	620	0.330	0.5
MW-514	03/21/18	52.29	6.67	1,410	0.60	35.9	NA	NA	NA	NA	NA	NA
MW-514	06/28/18	60.62	6.72	505.07	3.92	143.5	NA	23.1	0.280	190	0.155	0.0
MW-514	11/29/18	56.43	6.54	751.89	0.18	47.3	NA	23.2	0.250 U	420	1.850	1.0
MW-514	06/18/19	59.20	6.59	4,698	2.80	40.9	NA	194.0	0.440 J	660	7.520	6.5
MW-514	12/09/19	55.63	6.63	5,851	0.04	-39.6	NA	264.0	0.250 U	600	5.450	3.5
MW-514	06/25/20	59.38	6.49	2,813	0.35	-3.3	NA	78.0	0.250 U	270.0	2.500	2.5
MW-514	11/05/20	59.64	6.48	4,918.1	0.16	23.7	NA	180.0	0.250 UH	310	5.4	3.0
MW-515	10/22/08	62.15	6.60	451.90	0.00	23.35	174	36.2	0.200 U	395	2.46	1.1
MW-515	12/10/08	53.51	6.66	444.71	0.03	73.86	131	78.2	0.56	12.7	1.32	0.0
MW-515	02/24/09	49.14	6.63	382.79	1.00	76.95	125	61.6	0.250 U	99	0.541	0.0
MW-515	04/22/09	49.78	6.86	288.96	1.29	-156.87	112	54.1	0.250 U	45	0.569	0.0
MW-515	06/24/09	62.81	6.64	514.96	0.11	29.36	185	55.6	0.250 U	510	1.43	0.5
MW-515	08/20/09	67.66	6.65	526.87	0.29	14.84	194	33	0.250 UW	410	1.56	0.2
MW-515	10/27/09	60.81	6.76	319.95	1.41	40.71	137	33	0.250 U	270	0.97	0.5
MW-515	10/27/10	61.29	6.76	334.75	1.35	-91.25	150	30.2	0.250 U	240	0.645	1.0
MW-515	12/14/11	50.52	6.90	278.52	0.05	40	145	50	0.250 U	86	0.419	0.0
MW-515	12/17/12	52.38	6.85	202.11	5.71	111.67	87.6	18.2	0.250 U	9.0	0.119	<1
MW-515	12/18/13	51.48	6.80	279.20	0.21	-68.34	140	24.4	0.250 U	36	0.188	0.8
MW-515	12/11/14	53.51	6.87	379.34	1.32	110.50	126	23	0.25 U	3.0 U	0.0811	0.1
MW-515	07/25/17	65.67	6.73	390.53	0.15	13.4	NA	20.1	0.250 U	330	0.318	0.5
MW-515	03/21/18	48.52	10.18	0.40	11.32	119.9	NA	NA	NA	NA	NA	NA
MW-515	06/28/18	62.54	6.81	862.0	0.11	46.9	NA	30.2	0.250 U	81	0.093	0
MW-515	11/28/18	55.71	6.96	789.58	2.39	92.1	NA	37.9	0.600	4.3	0.087	0.0
MW-515 (Duplicate)	11/28/18	NA	NA	NA	NA	NA	NA	40.0	0.660	6.3	0.081	NA
MW-515	06/17/19	61.18	6.51	20,827	0.12	109.0	NA	990.0	0.250 U	160	5.920	0.5
MW-515	12/09/19	54.41	6.74	11,847	0.07	75.1	NA	501.0	0.250 U	700	4.060	0.0
MW-515	06/22/20	Wasp nest in well box. Well neither gauged nor sampled. Nest Removed.										
MW-515	11/05/20	59.92	6.70	16,909	0.11	77.7	NA	660.0	0.250 U	480	1.2	0.5
MW-516	10/22/08	60.37	6.75	410.68	0.21	22.93	175	43.2	0.200 U	439	2.23	0.4
MW-516	12/10/08	53.18	6.64	391.95	0.03	54.04	149	57.6	0.33	22	1.58	0.0
MW-516	02/24/09	45.41	6.85	296.90	2.83	109.91	111	55.6	0.75	5.7	0.26	0.0
MW-516	04/22/09	49.82	6.86	290.47	3.59	-7.72	110	54.1	0.5	10 U	0.0591	1.0
MW-516	06/24/09	65.26	6.67	525.02	0.61	24.67	182	48.8	0.250 U	450	0.592	0.0

Table 3-5
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 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-516	08/20/09	68.95	6.68	474.28	0.83	42.34	184	25.7	0.250 UW	300 P	1.02	0.0
MW-516	10/27/09	60.04	6.69	339.91	1.48	38.92	149	34.4	0.250 U	25	0.831	0.0
MW-516	10/27/10	60.44	6.59	373.46	1.74	-27.12	142	31.4	0.250 U	26	0.386	0.1
MW-516	12/14/11	50.40	6.67	399.03	2.39	110	0.46 U	21.4	0.250 U	150	0.402	0.0
MW-516	12/17/12	49.35	7.26	127.11	10.16	91.17	62.6	3.6	0.250 U	3.0 U	0.0328	0.0
MW-516	12/18/13	51.00	6.75	249.92	0.45	-13.89	134	21.4	0.250 U	62	0.336	0.9
MW-516	12/11/14	53.36	6.85	279.66	3.54	94.10	111	13	0.25 U	7.1	.228	0.0
MW-516	07/25/17	66.21	6.72	330.69	0.90	51.9	NA	23.3	0.250 U	150	0.095	0.0
MW-516 (Duplicate)	07/25/17	--	--	--	--	--	--	21.4	0.250 U	130	0.089	--
MW-516	03/21/18	48.64	10.03	0.40	11.33	120.7	NA	NA	NA	NA	NA	NA
MW-516	06/28/18	64.49	6.70	719.44	0.56	98.5	NA	32.6	0.250 U	27	0.222	0.0
MW-516	11/29/18	55.69	6.90	417.93	3.31	140.1	NA	21.3	1.900 U	3.0 U	0.066	0.0
MW-516	06/17/19	67.15	6.89	2.0	9.29	143.5	NA	192.0	0.250 U	190	1.740	0.0
MW-516	12/09/19	53.13	6.87	4,911	1.81	70.1	NA	222.0	0.430 J	130	2.930	0.5
MW-516	06/25/20	62.24	6.65	1,636	0.20	65.3	NA	73.0	0.250 U	38.0	0.500	0.0
MW-516	11/05/20	59.72	6.66	7,015.4	0.24	97.3	NA	220.0	0.360 J	130	1.8	0.0
MW-517	10/22/08	59.72	6.52	361.40	0.10	15.95	156	39.3	0.200 U	1,080 D	3.17	0.6
MW-517	12/10/08	52.71	6.51	374.55	-0.04	63.88	161	47.4	0.200 U	394	1.81	0.0
MW-517	02/24/09	46.38	6.71	355.26	1.97	101.76	127	65.8	1.2	11	0.892	0.4
MW-517	04/22/09	50.90	6.70	348.44	1.21	-81.24	128	66.7	0.250 U	43	0.584	1.0
MW-517	06/24/09	64.49	6.72	463.93	0.61	-52.18	184	50.5	0.250 U	1,700	1.14	1.0
MW-517	08/20/09	67.06	6.60	437.32	0.33	7.39	184	20.6	0.250 UW	4,400	1.36	0.5
MW-517	10/27/09	60.36	6.66	355.06	0.41	15.34	148	41.9	0.250 U	99	1.09	1.5
MW-517	10/27/10	59.99	6.68	381.89	0.56	-12.51	145	35.3	0.250 U	270	0.641	0.5
MW-517	12/14/11	50.41	6.76	292.70	0.07	43.46	165	26	0.250 U	75	0.788	0.6
MW-517	12/17/12	50.94	7.19	184.80	9.90	73.30	101	8.6	0.250 U	12	0.0913	0.0
MW-517	12/18/13	50.64	6.71	273.51	0.24	-13.52	150	21.8	0.250 U	18	0.474	0.4
MW-517	12/11/14	52.76	6.89	308.53	5.90	77.27	124	15	0.25 U	4.4	0.687	0.1
MW-517	07/25/17	65.75	6.56	232.95	0.36	29.2	NA	11.8	0.250 U	520	0.338	0.5
MW-517	03/21/18	47.83	10.79	0.39	11.43	113.0	NA	NA	NA	NA	NA	NA
MW-517	06/28/18	63.39	6.82	493.84	1.71	89.0	NA	25.7	0.310 U	3.0 U	0.148	0.0
MW-517	11/29/18	54.54	6.93	415.38	4.11	117.8	NA	21.6	0.390 U	13	0.062	0.0
MW-517	06/17/19	61.86	6.59	6,649	1.01	-128.0	NA	320.0	0.250 U	310	5.450	1.0
MW-517	12/09/19	52.88	6.79	4,897	4.08	75.7	NA	113.0	0.710 U	110	5.380	1.0
MW-517	06/25/20	62.07	6.56	1,827	1.02	-14.3	NA	80.0	0.250 U	74.0	1.100	0.0
MW-517	11/06/20	57.70	6.64	6,956.5	1.70	88.5	NA	230.0	0.560 H	210	2.6	0.25
MW-518	10/22/08	61.89	6.46	2,403	0.10	6.25	194	93.4	0.200 U	2,380 D	1.6	3.0
MW-518	12/10/08	56.07	6.64	590.16	0.08	22.59	247	32.5	0.200 U	1,920 D	2.22	1.6
MW-518	02/25/09	47.59	6.55	482.43	0.15	-9.02	209	61.1	0.250 U	2,900	1.99	2.2
MW-518	04/22/09	48.17	6.52	519.99	0.27	-182.35	163	63.6	0.6	3,100	1.48	2.0
MW-518	06/25/09	58.02	6.48	1,501	0.24	6.00	117	97.6	0.5	1,500	1.67	2.0
MW-518	08/20/09	65.80	6.49	2,675	0.12	-247.61	176	119	0.250 UW	4,500	1.5	3.0
MW-518	10/30/09	62.35	6.50	1,278	0.45	-46.31	224	51.6	0.250 U	4,000	1.57	4.0
MW-518	10/28/10	60.96	6.57	1,588	0.04	-116.69	200	70.4	0.250 U	3,500	1.38	8.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-518	12/14/11	54.16	6.57	645.67	0.56	0.00	213	85.6	0.530	1,500	0.807	4.0
MW-518	12/17/12	54.97	6.60	676.38	1.03	-39.40	223	132	0.480	1,400	0.484	0.7
MW-518	12/19/13	53.90	6.78	319.92	0.25	-40.51	198	7.4	0.250 U	3,700	0.64	1.8
MW-518	12/11/14	57.43	6.69	671.16	1.01	56.96	214	62	0.34	1,900	0.35	0.1
MW-518	07/25/17	62.68	6.91	388.33	--	22.2	NA	32.5	0.250 U	500	0.181	0.25
MW-518	03/21/18	50.50	9.96	0.4	10.96	113.3	NA	NA	NA	NA	NA	NA
MW-518	06/28/18	57.74	7.11	419.86	0.35	-144.8	NA	18.9	0.250 U	4,200	0.215	0.5
MW-518 (Duplicate)	06/28/18	--	--	--	--	--	--	23.6	0.250 U	4,000	0.213	--
MW-518	11/28/18	58.46	6.81	1,056	0.14	-87.4	NA	7.5	0.250 U	2,300	0.867	4.0
MW-518	06/18/19	55.88	7.12	643.1	0.13	88.5	NA	29.9	0.250 U	3,200	0.273	1.5
MW-518	12/09/19	57.44	6.93	3,738	0.15	-124.6	NA	32.7	0.250 U	2,100	0.785	3.5
MW-518 (Duplicate)	12/09/19	57.44	6.93	3,738	0.15	-124.6	NA	31.3	0.250 U	2,200	0.765	3.5
MW-518	06/24/20	59.54	7.32	581.63	0.16	-127.9	NA	11.0	0.250 UH	950	0.240	1.0
MW-518 (Duplicate)	06/24/20	--	--	--	--	--	--	11.0	0.250 UH	970	0.240	--
MW-518	11/05/20	60.85	6.79	2,562.8	0.14	-113.0	NA	26.0	0.250 UH	1,200	0.51	1.5
MW-518 (Duplicate)	11/05/20	--	--	--	--	--	--	30.0	0.250 UH	1,100	0.5	--
MW-519	10/22/08	58.05	6.55	535.69	-0.02	-34.53	217	29.8	0.200 U	6,780 D	1.31	3.6
MW-519	12/09/08	53.23	6.64	610.07	0.11	-70.36	250	30	0.200 U	9,760 D	1.34	3.2
MW-519	02/24/09	46.76	6.65	405.26	0.10	-41.65	186	43.1	0.46	8,800	0.847	2.7
MW-519	04/21/09	51.87	6.63	478.38	0.13	638.95	255	21.5	0.250 U	14,000	1.22	2.7
MW-519	06/24/09	60.02	6.58	618.06	0.06	-67.35	290	9.7	0.25 U	13,000	1.15	5.0
MW-519	08/18/09	66.09	6.61	691.65	0.14	-57.02	258	36.7	0.250 U	14,000	1.16	2.5
MW-519	10/27/09	59.84	6.59	364.97	0.31	-72.83	124	49.6	0.250 U	6,400	0.61	2.0
MW-519	10/26/10	59.52	6.53	469.46	0.18	-61.26	170	71.6	0.250 U	3,900	0.473	4.2
MW-519	12/14/11	51.03	6.69	402.43	-0.01	-40	266	38.8	0.370	11,000	0.822	0.0
MW-519	12/17/12	50.40	6.73	300.97	2.09	47.42	145	54.6	0.310	1,300	0.186	0.0
MW-519	12/17/13	50.70	6.66	464.83	-0.01	-50.27	253	17.9	0.250 U	12,000	0.814	3.0
MW-519	12/10/14	51.80	7.00	344.69	5.02	56.84	109	34	0.25 U	170	0.0374	0.1
MW-519	07/25/17	67.16	6.56	647.57	0.25	-36.3	NA	7.0	0.250 U	13,000	0.545	3.5
MW-519	03/22/18	47.66	7.19	370.84	3.57	102.3	NA	NA	NA	NA	NA	NA
MW-519 (Duplicate)	03/22/18	--	--	--	--	--	NA	NA	NA	NA	NA	NA
MW-519	06/27/18	64.38	6.65	479.94	0.98	9.6	NA	39.2	0.250 U	72	0.586	1.0
MW-519	11/29/18	54.33	7.51	483.32	8.01	97.4	NA	70.1	0.350	3.0 U	0.009	0.0
MW-519	06/19/19	63.05	6.61	453.0	0.22	46.1	NA	40.2	0.250 U	390	0.744	0.0
MW-519	12/11/19	53.55	6.94	705.5	3.01	25.2	NA	91.8	0.250 U	830	0.145	0.5
MW-519	06/24/20	59.96	6.97	504.8	0.22	62.3	NA	55.0	0.250 UH	38	0.066	0.5
MW-519	11/03/20	59.49	6.91	880.89	2.28	78.2	NA	91.0	0.250 UH	62	0.12	0.0
MW-520	10/21/08	59.76	6.79	944.21	0.02	-14.62	212	32	0.200 U	2,230 D	1.58	1.4
MW-520	12/09/08	53.17	6.81	584.24	0.12	-89.46	189	28.7	0.200 U	2,240 D	1.48	1.4
MW-520	02/23/09	47.79	6.84	477.54	0.16	-57.60	187	22.1	0.250 U	2,500	1.18	1.6
MW-520	04/22/09	48.74	6.75	397.91	0.40	-161.40	162	33.6	0.250 U	2,200	746	2.0
MW-520	06/24/09	60.08	6.67	584.31	0.04	-54.65	202	19.3	0.250 U	4,900	1.46	3.0
MW-520	08/18/09	67.93	6.60	587.53	0.06	27.15	194	5.5	0.250 U	1,600	1.09	2.0
MW-520	10/27/09	60.06	6.50	483.54	0.09	9.18	153	33.6	0.250 U	1,100	1.03	1.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-520	10/27/10	60.39	6.48	731.32	0.20	-82.10	201	16	0.250 U	1,600	1.46	1.8
MW-520	12/14/11	51.35	6.58	612.41	0.16	40	161	51	0.250 U	740	1.08	1.0
MW-520	12/14/12	52.50	6.75	303.23	0.07	-80.88	137	38.4	0.250 U	130	0.833	1.0
MW-520	12/17/13	52.02	6.69	489.30	0.14	-189.75	176	68.3	0.250 U	750	0.676	1.0
MW-520	12/10/14	54.54	7.11	472.05	3.86	125.06	95.6	84	0.25 U	53	0.0639	0.0
MW-520	07/25/17	65.71	6.74	786.68	0.15	183.5	NA	21.7	0.250 U	820	3.550	0.0
MW-520	03/20/18	48.45	7.18	783.61	4.30	106.2	NA	NA	NA	NA	NA	NA
MW-520	06/28/18	60.89	6.87	573.88	0.13	14.8	NA	38.3	0.250 U	120	1.110	0.0
MW-520	11/29/18	55.00	6.97	1,225	6.42	91.7	NA	268.0	0.750	7.9	0.005 U	0.0
MW-520	06/19/19	60.16	7.13	633.4	0.35	164.5	NA	55.3	0.250 U	320	0.928	0.0
MW-520	12/12/19	50.32	5.70	0.4	11.62	151.2	NA	410.0	0.510	3 U	0.001 J	0.0
MW-520	06/24/20	61.91	7.00	733.0	1.45	24.4	NA	76.0	0.250 UH	3 U	0.006	0.5
MW-520	11/05/20	58.60	6.88	944.87	7.81	158.8	NA	330.0	0.350 JH	3.0 U	0.0021	0.0
MW-521	10/21/08	59.50	6.57	818.08	-0.01	4.73	172	63.9	0.200 U	888	1.42	0.9
MW-521	12/09/08	53.28	6.77	555.86	0.38	-70.66	174	37.3	0.200 U	1,310	1.48	0.5
MW-521	02/23/09	46.76	6.78	408.37	0.11	-33.28	150	50.8	0.250 U	1,200	1.44	0.6
MW-521	04/21/09	52.18	6.65	282.87	0.33	643.50	105	43.5	0.250 U	66	0.587	0.2
MW-521	06/23/09	62.33	6.68	366.61	0.35	12.69	142	33.4	0.250 U	530	0.649	1.0
MW-521	08/19/09	66.65	6.54	504.12	0.14	-9.28	172	46.1	0.250 U	740	0.899	1.5
MW-521	10/26/09	60.51	6.71	701.29	0.15	-191.41	154	52.3	0.250 U	3,100	1.73	1.5
MW-521	10/27/10	59.20	6.50	541.24	0.18	-90.60	177	38.2	0.250 U	1,200	1.25	1.6
MW-521	12/14/11	45.43	7.11	220.14	11.97	90	145	143	0.250 U	200	1.04	1.4
MW-521	12/17/12	49.57	6.66	171.31	6.93	158.90	60.6	51.2	0.250 U	3.0 U	0.0157	0.5
MW-521	12/17/13	51.60	6.66	388.24	0.67	40.58	150	64.4	0.250 U	150	0.305	0.5
MW-521	12/10/14	51.76	7.20	227.11	6.97	-69.70	48.7	33	0.25 U	3.0 U	0.0065	0.1
MW-521	07/25/17	67.15	6.19	632.67	0.70	18.4	NA	21.6	0.250 U	310	0.620	1.25
MW-521	03/20/18	49.39	6.99	320.66	1.30	189.0	NA	NA	NA	NA	NA	NA
MW-521	06/28/18	62.98	6.70	574.72	0.74	123.8	NA	52.2	0.250 U	75	1.030	0.0
MW-521	11/30/18	52.16	7.02	314.57	6.34	94.9	NA	49.9	0.250 U	3.0 U	0.005 U	0.5
MW-521	06/19/19	61.72	6.93	431.9	1.45	182.8	NA	47.9	0.470 J	38	0.358	0.0
MW-521	12/11/19	53.79	6.77	953.3	2.10	-4.3	NA	77.4	0.250 U	14	0.216	2.0
MW-521	06/25/20	60.12	6.76	587.9	1.39	161.1	NA	61.0	0.250 U	26	0.260	0.0
MW-521	11/06/20	56.04	6.76	549.42	4.01	160.8	NA	49.0	0.250 UH	3.0 U	0.069	0.0
MW-522	10/21/08	62.31	6.57	756.65	0.06	-47.72	251	18	0.200 U	972	1.7	5.2
MW-522	12/09/08	53.30	6.71	548.80	0.14	-98.92	200	73.9	0.200 U	297	1.07	5.2
MW-522	02/23/09	48.06	6.56	503.15	0.12	-50.16	171	108	0.250 U	260	1.16	4.6
MW-522	04/21/09	49.60	6.65	393.02	0.11	699.67	154	76.6	0.250 U	74	0.88	5.2
MW-522	06/23/09	59.64	6.61	442.11	0.05	-75.88	186	51	0.250 U	140	0.963	3.0
MW-522	08/18/09	68.79	6.61	621.20	0.07	-68.46	244	29.5	0.250 U	580	1.26	3.0
MW-522	10/26/09	61.92	6.43	1,167	0.09	-25.26	206	560	0.280	400	0.947	3.0
MW-522	10/26/10	59.92	6.30	4,979,442	0.43	-104.90	208	628	0.250 U	180	0.758	0.8
MW-522	12/14/12	53.35	6.54	552.82	0.04	-16.41	203	106	0.250 U	230	1.04	1.5
MW-522	12/14/12	50.74	7.06	545.49	6.53	138.56	163	264	0.250 U	3.0 U	0.0019	0.0
MW-522	12/17/13	54.67	6.54	591.41	0.09	-207.15	221	68.7	0.250 U	560	0.991	0.0

Table 3-5
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 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-522	12/10/14	52.72	7.08	802.18	5.09	183.44	157	196	0.25 U	3.0 U	0.00055 U	0.0
MW-522	07/25/17	58.45	6.45	451.80	--	102.4	NA	14.0	0.250 U	1,000 U	1.780	0.0
MW-522	03/20/18	49.86	7.15	567.69	0.72	221.0	NA	NA	NA	NA	NA	NA
MW-522	06/28/18	56.45	6.62	529.64	0.11	55.1	NA	71.6	0.250 U	160	0.786	0.0
MW-522	11/29/18	53.17	7.32	845.16	8.44	164.7	NA	236.0	0.340	3.0 U	0.005 U	0.0
MW-522	06/18/19	56.06	6.50	868.6	0.14	92.2	NA	70.7	0.350 J	160	0.640	0.5
MW-522	12/12/19	54.06	6.68	1,292	0.47	0.4	NA	297.0	0.250 U	58	0.127	0.5
MW-522 (Duplicate)	12/12/19	54.06	6.68	1,292	0.47	0.4	NA	288.0	0.250 U	62	0.121	0.5
MW-522	06/30/20	56.43	6.70	587.4	0.00	33.2	NA	92.0 F1	0.250 U	53 F1	0.220	0.0
MW-522	11/06/20	57.39	6.70	951.98	0.15	41.3	NA	85.0	0.250 UH	260	0.3	0.0
MW-523	10/21/08	61.66	6.66	870.33	0.01	24.73	221	45.7	0.200 U	1,940 D	3.28	0.8
MW-523	12/09/08	54.24	6.71	587.13	0.31	31.67	218	53.2	0.200 U	482	3.01	0.6
MW-523	02/23/09	47.46	6.67	420.64	0.41	98.18	164	70	0.250 U	31	1.12	0.0
MW-523	04/21/09	49.53	6.76	353.07	0.35	-56.71	146	56.8	0.250 U	280	1.39	0.0
MW-523	06/23/09	62.92	6.77	437.56	2.42	141.87	164	42.4	0.250 U	5.0 U	0.593	0.0
MW-523	08/18/09	68.16	6.64	614.62	0.16	53.81	199	21	0.250 U	1,600	1.38	0.0
MW-523	10/26/09	62.44	6.65	720.56	0.28	62.64	248	46.5	0.250 U	420	2.95	1.0
MW-523	10/26/10	60.60	6.57	815.65	0.58	31.43	220	102	0.250 U	400	1.15	1.0
MW-523	12/13/11	53.06	6.64	599.47	0.29	70	224	44.2	0.400	72	1.31	0.8
MW-523	12/14/12	53.57	6.71	372.50	6.84	217.62	146	87.2	0.250 U	5.4	0.0707	NA
MW-523	12/17/13	52.41	6.59	385.69	0.31	-195.99	183	49.9	0.250 U	25	0.47	0.0
MW-523	12/10/14	54.18	6.58	620.59	2.77	-20.73	192	63	0.390	3.0 U	0.008	0.0
MW-524	10/21/08	60.03	6.46	965.29	-0.04	16.91	115	402	0.34	51	0.623	1.6
MW-524	12/09/08	52.74	6.58	421.64	2.81	154.94	70.6	172	0.62	2.1	0.0353	0.0
MW-524	02/23/09	47.66	6.62	337.04	2.35	118.32	76.5	141	0.48	6.2	0.0159	0.2
MW-524	04/21/09	48.81	6.60	309.12	4.93	68.52	73.2	119	0.250 U	12	0.0308	0.0
MW-524	06/23/09	59.55	6.59	374.54	0.55	139.04	86	121	0.250 U	5.0 U	0.0235	0.0
MW-524	08/18/09	65.03	6.49	468.64	0.50	108.31	104	154	0.250 U	7.9	0.0537	0.0
MW-524	10/26/09	59.41	6.27	685.50	0.66	259.84	38	410	0.450	5.0 U	0.0106	1.0
MW-524	10/26/10	59.22	6.45	1,908,568	4.24	131.09	52.6	225	0.260	5.0 U	0.84	0.4
MW-524	12/13/11	48.68	6.60	287.04	4.27	200	44.4	200	0.550 U	5.0 U	0.0048	0.0
MW-524	12/14/12	49.55	6.54	159.72	8.71	245.64	59.3	50.5	0.250 U	3.0 U	0.00048	1.0
MW-524	12/17/13	52.89	6.66	327.49	1.68	228.79	69.9	137	0.250 U	3.0 U	0.0031	0.0
MW-524	12/09/14	54.12	6.63	263.18	4.54	233.36	60.0	63	0.250 U	3.0 U	0.001 U	0.0
MW-525	12/14/12	55.41	6.42	485.07	0.10	-160.05	243	4.9	0.250 U	5,100	2.25	6.0
MW-525	12/17/13	53.85	6.37	274.47	0.01	-106.94	165	4.5	0.250 U	1,800	0.96	1.0
MW-525	12/09/14	56.56	6.41	550.92	0.09	-131.07	240	4	0.25 U	8,900	2.86	>10
MW-525	07/26/17	60.26	6.53	353.07	0.11	-66.6	NA	5.9	0.250 U	6,700	0.705	6.5
MW-525	03/20/18	50.36	--	--	10.55	61.0	NA	NA	NA	NA	NA	NA
MW-525	06/27/18	63.42	5.43	1,013	0.02	-266.6	NA	453.0	0.250 U	1,900	4.210	5.0
MW-525	11/27/18	56.94	6.35	152.34	1.50	-82.0	NA	24.2	0.540	45	0.093	5.0
MW-525	06/20/19	60.44	5.79	7,799	0.67	114.5	NA	519.0	0.250 U	150	6.230	7.0
MW-525	12/11/19	54.78	6.22	9,799	0.16	-16.9	NA	332.0	0.250 U	1,300	4.840	4.5
MW-525	06/23/20	60.10	6.41	5.8	0.28	5.8	NA	150.0	0.250 U	430	1.100	3.5

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-525	11/04/20	62.05	6.03	944.36	0.35	-156.5	NA	110.0	0.250 UH	540	1.1	7.0
MW-526	12/14/12	53.11	6.38	765.25	0.02	-58.05	340	27.5	0.250 U	950	1.36	3.0
MW-526	12/18/13	51.73	6.44	716.30	0.02	-91.82	332	1.5 U	0.250 U	1,500	1.34	1.0
MW-526	12/10/14	54.56	6.64	783.77	0.19	-278.66	293	3	0.25 U	1,500	1.53	>10
MW-526	07/26/17	64.69	6.50	383.76	0.04	-19.3	NA	1.5 U	0.250 U	2,100	1.060	6.75
MW-526	03/20/18	49.73	--	--	10.50	-102.7	NA	NA	NA	NA	NA	NA
MW-526	06/27/18	60.72	6.78	567.73	0.29	-97.9	NA	69.0	0.250 U	110	0.557	5.0
MW-526	11/27/18	54.44	6.44	308.85	8.27	108.5	NA	68.5	4.000	3.0 U	0.414	7.0
MW-526	06/20/19	60.89	6.34	266.0	0.07	49.6	NA	43.2	0.340 J	8.4	0.494	7.0
MW-526	12/11/19	51.60	5.84	157.4	0.49	98.3	NA	19.7	0.410 J	4.1 J	0.373	3.0
MW-526	07/01/20	59.26	6.07	145.9	0.38	39.0	NA	14.0	0.400 J	3 U	0.260	0.5
MW-526	11/04/20	59.42	6.76	0.07	10.30	57.2	NA	20.0	0.250 UH	3.0 U	0.48	1.0
MW-526 (Duplicate)	11/04/20	--	--	--	--	--	--	19.0	0.250 UH	3.0 J	0.49	
MW-527	12/19/12	48.18	6.60	356.45	3.32	-29.37	206	12.6	0.250 U	24	0.56	0.3
MW-527	12/20/13	48.37	6.45	994.66	0.16	107.81	849	9.8	0.250 U	20,000	15.30	5.0
MW-527	12/12/14	51.72	6.61	401.96	1.25	23.20	251	14	0.250 U	2,300	2.280	3.0
MW-528	12/19/12	50.69	6.55	628.52	0.72	-13.19	433	32.4	0.250 U	5,400	9.27	4.0
MW-528	12/20/13	50.42	6.56	1,035	0.03	-35.07	517	22.7	0.250 U	11,000	18.50	6.8
MW-528	12/12/14	53.69	6.67	785.71	0.07	-54.36	398	22	0.250 U	7,000	11.400	6.0
MW-530	12/17/12	47.82	6.66	26,642	0.14	-189.47	140	1,290	0.250 U	16	0.20	0.3
MW-530	12/18/13	47.60	6.83	17,872	0.07	-230.02	141	1,080	0.250 U	130	0.21	0.5
MW-530	12/09/14	51.28	7.05	23,463	-0.02	-215.89	131	935	0.25 U	20	0.187	0.1
MW-530	07/26/17	61.35	6.41	27,495	0.21	-142.2	NA	1,480	0.250 U	44	0.194	0.0
MW-530	03/20/18	48.64	6.73	20,529	0.14	-252.0	NA	NA	NA	NA	NA	NA
MW-530	06/27/18	58.82	6.87	16,447	0.05	-278.2	NA	769.0	0.250 U	61	0.087	0.0
MW-530	11/27/18	52.27	6.59	24,312	0.10	-280.4	NA	935.0	0.250 U	10	0.091	0.5
MW-530	06/17/19	Well Damaged - No sampling - Repaired on 06/28/19										
MW-530	12/12/19	51.81	6.65	27,440	0.05	-266.7	NA	1,210	0.250 U	920	0.313	0.0
MW-530	06/23/20	57.53	6.58	30,751	0.20	-136.8	NA	1,800	0.250 U	54	0.580	1.0
MW-530	11/03/20	55.37	6.73	32,188	0.10	-270.4	NA	1,200	0.250 U	290	0.41	0.0
MW-531	12/18/12	47.22	6.72	408.24	0.98	-4.57	176	130.0	0.510	120	0.08	0.7
MW-531	12/17/13	52.70	6.46	313.43	0.05	-58.89	172	6.1	0.250 U	1,100	0.60	0.3
MW-531	12/09/14	51.09	6.49	292.36	0.06	-8.26	107	33	0.25 U	1,200	0.115	0.6
MW-531	07/26/17	61.39	6.56	254.24	--	-3.0	NA	1.5 U	0.250 U	3,300	0.532	3.25
MW-531	03/20/18	48.13	7.04	371.15	0.55	109.2	NA	NA	NA	NA	NA	NA
MW-531	06/27/18	60.25	6.63	490.45	1.54	28.8	NA	47.5	0.520	86	0.312	0.0
MW-531	11/27/18	51.75	6.86	775.20	3.86	159.5	NA	224.0	0.670	3.0 U	0.005 U	0.0
MW-531	06/20/19	59.55	6.25	848.59	0.17	178.0	NA	31.1	0.250 U	1,500	0.754	0.0
MW-531 (Duplicate)	06/20/19	--	--	--	--	--	NA	30.3	0.250 U	1,400	0.740	0.0
MW-531	12/11/19	52.69	6.79	1,856	3.65	75.0	NA	156.0	0.390 J	120	2.460	2.5
MW-531	06/24/20	59.46	6.64	2,049	0.18	86.6	NA	64.0	0.250 UH	440	0.810	1.0
MW-531	11/04/20	60.78	6.31	6,437.2	0.96	111.9	NA	150.0	0.340 JH	170	2.5	0.05
MW-531 (Duplicate)	11/04/20	--	--	--	--	--	--	180.0	0.310 JH	200	2.5	--
MW-532	12/14/12	53.44	6.35	259.66	0.04	-92.42	113	39.3	0.250 U	220	0.24	1.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-532	12/17/13	53.07	6.20	252.35	0.02	-60.71	105	36.1	0.250 U	210	0.13	0.2
MW-532	12/09/14	54.89	6.34	242.53	0.12	-99.77	112	27	0.25 U	730	0.329	2.5
MW-532	07/26/17	60.82	6.29	373.47	0.07	-62.9	NA	1.5 U	0.250 U	2,500	0.825	7.0
MW-532	03/20/18	48.70	--	288.13	0.27	--	NA	NA	NA	NA	NA	NA
MW-532	06/27/18	58.24	5.74	450.76	0.07	-44.0	NA	159.0	0.250 U	360	0.460	0.5
MW-532	11/27/18	55.89	6.60	264.49	8.15	127.5	NA	51.8	0.520	3.0 U	0.017	0.5
MW-532	06/20/19	55.44	6.02	761.11	0.20	168.4	NA	64.2	0.250 U	120	0.438	2.0
MW-532	12/11/19	54.15	6.04	202.54	0.77	172.4	NA	26.0	0.250 U	25	0.040	0.0
MW-532	07/01/20	56.76	5.84	178.3	0.37	187.6	NA	17.0	0.250 U	3 U	0.019	0.0
MW-532	11/04/20	60.56	5.98	186.64	1.86	172.7	NA	22.0	0.250 UH	5.1	0.033	0.05
MW-533	03/20/18	47.90	6.83	11,287	3.19	155.7	NA	NA	NA	NA	NA	NA
MW-533	06/27/18	63.06	7.18	709.84	0.43	89.7	NA	30.5	0.250 U	5.8	0.035	0.0
MW-533	11/27/18	53.47	7.15	3,300	6.46	109.1	NA	182.0	0.520	3.0 U	0.007 U	0.0
MW-533	06/19/19	60.63	7.07	42,122	4.82	90.9	NA	2,090	0.330 J	3.0 U	0.005 U	0.0
MW-533	12/11/19	51.39	7.62	4,494	0.92	110.3	NA	188.0	0.650	3 U	0.001 U	0.0
MW-533 (Duplicate)	12/11/19	51.39	7.62	4,494	0.92	110.3	NA	185.0	0.620	4 J	0.880 J	0.0
MW-533	06/24/20	58.91	7.38	38,985	6.32	177.1	NA	2,600	0.310 JH	3 U	0.001 U	2.0
MW-533	11/04/20	55.28	7.23	40,956	7.28	78.6	NA	1,700	0.430 JH	3.0 U	0.00065 U	0.0
MW-534	03/20/18	52.29	6.74	3,908	0.08	-20.0	NA	NA	NA	NA	NA	NA
MW-534	06/27/18	63.17	6.66	2,453	0.15	-184.2	NA	41.3	0.250 U	5,500	3.760	6
MW-534	11/28/18	53.85	6.47	183.11	3.62	109.1	NA	32.5	0.250 U	140	0.209	0.0
MW-534 (Duplicate)	11/28/18	--	--	--	--	--	NA	35.4	0.250 U	200	0.226	NA
MW-534	06/20/19	62.27	6.26	24,129	0.11	-137.1	NA	1,040	0.250 U	2,500	15.300	6.0
MW-534	12/12/19	53.03	6.66	7,253	0.24	-48.2	NA	510.0	0.250 U	4,500	5.590	3.5
MW-534	06/24/20	61.60	6.55	8,720	0.13	-36.0	NA	360.0	0.250 UH	1,100	3.900	6.5
MW-534	11/04/20	61.99	6.68	12,825	0.22	-99.7	NA	430.0	0.250 UH	1,200	4.0	6.5
MW-535	03/20/18	48.11	6.96	34,199	5.34	299.10	NA	NA	NA	NA	NA	NA
MW-535 (Duplicate)	03/20/18	--	--	--	--	--	NA	NA	NA	NA	NA	NA
MW-535	06/27/18	68.39	7.27	640.02	0.22	28.8	NA	29.6	0.250 U	8.0	0.044	NA
MW-535 (Duplicate)	06/27/18	--	--	--	--	--	NA	21.9	0.250 U	5.6	0.048	--
MW-535	11/27/18	53.12	6.95	8,102	7.06	9.0	NA	387.0	0.590	5.0	0.016	0.0
MW-535	06/19/19	60.02	7.03	36,607	5.05	143.5	NA	1,840	0.370 J	3.0 U	0.285	0.0
MW-535	12/12/19	49.52	5.84	0.45	11.66	147.4	NA	87.3	0.860	3.0 U	0.010	0.0
MW-535	06/23/20	60.47	7.03	28,958	3.77	149.7	NA	2,000	0.310 J	3 U	0.002 J	0.0
MW-535 (Duplicate)	06/23/20	--	--	--	--	--	--	1,900	0.310 J	3 U	0.003	--
MW-535	11/03/20	53.20	7.03	38,864	5.54	89.1	NA	1,500	0.600 F1	3.0 U	0.00065 U	0.0
MW-8R	10/21/08	61.34	6.65	860.34	-0.02	-100.66	217	50.6	0.200 U	304	1.49	1.2
MW-8R	12/09/08	54.32	6.83	494.30	0.40	-132.57	180	58.1	0.200 U	299	0.664	1.2
MW-8R	02/23/09	47.03	6.75	426.42	0.42	-23.66	155	69.9	0.250 U	210	0.682	1.0
MW-8R	04/21/09	49.17	6.81	309.61	0.54	-167.35	134	47.5	0.250 U	21	0.375	0.0
MW-8R	06/23/09	61.01	6.69	404.48	0.22	17.20	168	45.7	0.250 U	100	0.719	2.0
MW-8R	08/18/09	68.36	6.55	568.94	0.11	-5.74	208	40.6	0.250 U	240	0.945	1.0
MW-8R	10/26/09	62.15	6.73	1,126	3.00	201.58	138	503	0.380	120	0.418	0.5
MW-8R	10/26/10	60.46	6.68	1,273	3.23	-24.65	223	376	0.250 U	220	0.497	1.0

Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
MW-8R	12/14/11	52.84	6.57	663.65	0.75	-10.00	185	70.9	0.250 U	150	0.780	0.2
MW-8R	12/14/12	53.45	6.88	476.09	8.02	219.79	155	163	0.250 U	3.0 U	0.0061	1.0
MW-8R	12/17/13	54.35	6.66	470.98	0.43	-183.41	187	37.4	0.250 U	62	0.229	0.2
MW-8R	12/10/14	56.31	6.97	604.21	6.50	214.86	150	84	0.25 U	3.0 U	0.0206	0.0
MW-8R	07/25/17	63.08	6.29	428.73	0.78	129.8	NA	20.6	0.250 U	110	0.085	0.0
MW-8R	03/20/18	48.54	6.86	355.34	0.49	104.9	NA	NA	NA	NA	NA	NA
MW-8R	06/29/18	56.40	6.81	431.53	0.00	103.4	NA	28.5	0.250 U	4.4	0.020	0.0
MW-8R	11/29/18	56.56	7.08	391.20	1.52	124.0	NA	53.3	0.380	3.0 U	0.038	0.0
MW-8R	06/18/19	55.86	6.65	450.02	0.50	126.2	NA	18.9	0.330 J	11	0.014	0.0
MW-8R	12/12/19	54.69	6.75	1,444	0.64	-17.8	NA	54.2	0.250 U	87	0.038	0.0
MW-8R	06/30/20	57.33	6.78	477.9	0.71	114.0	NA	56.0	0.250 U	3 U	0.010	0.0
MW-8R	11/06/20	57.24	6.84	1,005.9	0.75	81.3	NA	47.0	0.250 UH	3.0 U	0.012	0.0
MW-E	07/26/17	59.72	6.68	1,317	0.07	-96.6	NA	42.3	0.250 U	6,200	3.800	7.0
MW-E-R	03/20/18	51.48	6.60	1,507	0.01	-99.6	NA	NA	NA	NA	NA	NA
MW-E-R	06/27/18	59.55	6.58	1,705	0.00	-144.3	NA	1.5 U	0.250 U	23,000	11.800	4.5
MW-E-R	11/27/18	60.04	6.76	1,088	1.63	-87.7	NA	1.5 U	0.250 U	9,600	8.130	7.0
MW-E-R	06/20/19	59.44	6.56	1,650	0.13	-128.5	NA	3.4 J	0.250 U	14,000	15.700	4.0
MW-E-R	12/11/19	55.57	6.74	1,008	0.05	-77.5	NA	1.5 U	0.255 U	17,000	7.120	6.0
MW-E-R	06/23/20	59.80	6.54	1,315	0.06	-119.8	NA	1.5	0.250 U	16,000	8.800	>7.0
MW-E-R (Duplicate)	06/23/20	--	--	--	--	--	--	2.5 J	0.250 U	15,000	8.800	--
MW-E-R	11/04/20	61.92	6.67	1,410.2	0.07	-147.6	NA	1.6 J	0.250 U	16,000	7.1	6.0

**Table 3-5
 Summary of Groundwater Analytical Data
 Natural Attenuation Parameters
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington**

Monitoring Well	Date Sampled	Temperature (°F) ¹	pH ¹	Conductivity (µS/cm) ¹	DO (mg/L) ¹	ORP (mV) ¹	Total Alkalinity (mg/L as CaCO ₃) ²	Sulfate (mg/L) ³	Nitrate (mg/L) ³	Methane (µg/L) ⁴	Manganese (mg/L) ⁵	Ferrous Iron by Field Measurement (mg/L) ⁶
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Notes:

¹ and ORP measured using an In-Situ® 9500 and flow through cell.

Alkalinity analyzed using EPA method 310.1

Dissolved nitrate analyzed by EPA method 300.0.

Methane analyzed using method RSK 175.

Manganese analyzed using EPA method 6020.

pH measurement analyzed using a Hach field kit.

^{°F} = Degrees Fahrenheit

^µ = microsiemens per centimeter

DO = Dissolved oxygen

mg/L = milligrams per liter

µg/L = micrograms per liter

¹ = Oxidation-reduction potential

mV = millivolts

CaCO₃ = Calcium carbonate

Environmental Protection Agency

NA = Not Analyzed

[^] = Measurement error.

^{DB2} = Wells located within the DB-2 excavation footprint and decommissioned during the construction work related to DB-2 excavation activities in August 2017.

Lab Qualifiers

Definition

D	Sample required dilution due to high concentrations of target analyte.
U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
UJ	The compound was analyzed for but not detected. The associated value is the estimated compound quantitation limit.
W	The analysis holding time was not met.
P	Due to interfering peaks on the chromatogram, the value reported for methane represents the lowest reporting limit attainable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD recovery exceeds control limits

Table 4-1
Groundwater Extraction Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time (mm/dd/yy hh:mm ¹)	DPE System Enclosure LEL (Meter GT7911) ²	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells ³)	Number of Active Soil Vapor Extraction Wells (out of 20 Wells ⁴)	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) ⁵	Instantaneous System Flow Rate (Meter FT7001)	NPDES Discharge Sample Collected	NPDES Discharge pH Measured	Comments / System Status
Units	% LEL	hours	No. Wells	No. Wells	gal	gal	gpm	Yes/No	pH units	
NPDES Permit No. WA0991007 Effluent Limitations	--	--	--	--	--	--	100	Weekly Sample Outfall #002	6<pH<9	
DPE System Groundwater Extraction Testing Start-up: 12/1/17										
DPE System Soil Groundwater Extraction Effective Start-up: 12/5/17										
12/5/17 11:35	0.0	88.5	13	0	272,728 ⁶	271,313	47.40	Yes	#N/A	KO Transfer Pump offline - No Discharge
12/8/17 9:50	0.0	145.6	13	0	443,123	170,395	46.90	No	#N/A	KO Transfer Pump offline - No Discharge
12/13/17 8:55	0.0	175.8	13	15	533,537	90,414	52.10	No	#N/A	SVE-1 and SVE-2 are 10% Open - No Discharge
12/13/17 13:47	0.0	180.1	13	15	546,329	12,792	52.50	No	#N/A	No Discharge
12/14/17 10:00	0.0	198.0	13	15	600,138	53,809	48.50	Yes	8.02	
12/20/17 12:30	0.0	268.0	13	15	808,360	208,222	50.30	Yes	7.30	
12/27/17 11:45	1.5	362.3	13	15	1,078,783	270,423	47.10	Yes	7.44	
1/5/18 16:11	0.0	457.5	13	15	1,350,443	271,660	49.30	Yes	6.87	
1/9/18 16:10	0.5	467.2	13	15	1,379,660	29,217	50.20	Yes	7.08	
1/18/18 14:00	0.0	532.4	11	15	1,567,587	187,927	47.00	Yes	8.08	
1/24/18 13:30	0.0	606.1	13	15	1,771,575	203,988	70.80	Yes	7.58	
2/1/18 10:00	0.0	719.5	13	15	2,184,441	412,866	50.00	Yes	7.58	
2/8/18 9:45	0.0	765.7	7	7	2,336,768	152,327	59.10	Yes	7.70	
2/13/18 9:00	0.0	801.7	7	7	2,452,399	115,631	52.20	Yes	7.78	
2/20/18 13:30	0.0	869.5	10	7	2,645,606	193,207	49.00	Yes	7.73	
2/28/18 13:00	0.0	960.8	9	7	2,862,506	216,900	35.70	Yes	7.85	
3/8/18 10:30	0.0	1,038.8	6	6	3,026,377	163,871	40.30	Yes	7.75	
3/14/18 11:30	0.0	1,122.1	6	6	3,164,585	138,208	32.20	Yes	7.70	
5/8/18 12:30	0.0	1,122.1	14	14	3,164,585	0	62.10	Yes	7.13	Start at 0, Totalizer reset
5/17/18 13:00	0.0	1192.7	4	6	3,387,553	222,968	52.40	Yes	8.04	
5/23/18 14:45	0.0	1,217.1	4	6	3,441,445	53,892	50.40	Yes	7.98	
5/29/18 13:15	0.0	1,248.5	10	12	3,523,835	82,390	58.50	Yes	7.89	
6/7/18 12:30	0.0	1,290.4	10	12	3,673,007	149,172	81.20	Yes	8.15	
6/15/18 10:00	0.0	1,344.9	11	13	3,878,554	205,547	77.70	Yes	8.19	
7/5/18 11:40	0.0	1,428.5	4	6	4,198,836	320,282	70.30	Yes	8.17	
7/11/18 10:45	0.0	1,465.6	8	10	4,329,157	130,321	73.10	Yes	7.46	
7/19/18 13:00	0.0	1,472.5	8	10	4,355,511	26,354	73.00	No	#N/A	No Discharge
7/26/18 14:00	0.0	1,533.7	8	10	4,571,684	216,173	70.50	Yes	8.15	
8/3/18 15:00	0.0	1,582.7	4	6	4,739,433	167,749	67.60	Yes	8.13	
8/7/18 12:00	0.0	1,606.4	4	6	4,832,209	92,776	64.90	Yes	8.68	
8/15/18 13:00	0.0	1,649.5	4	6	4,998,519	166,310	68.40	Yes	7.96	
10/10/18 16:55	0.0	1,650.9	8	0	5,004,254	5,735	57.80	Yes	8.50	
10/18/18 14:00	0.0	1,656.1	6	6	5,018,900	14,646	57.60	Yes	7.90	
10/26/18 16:00	0.0	1,662.1	9	6	5,032,408	13,508	63.40	Yes	7.55	
11/7/18 16:00	0.0	1,663.7	9	9	5,035,905	3,497	68.00	Yes	7.81	

Table 4-1
Groundwater Extraction Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time (mm/dd/yy hh:mm ¹)	DPE System Enclosure LEL (Meter GT7911) ²	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells ³)	Number of Active Soil Vapor Extraction Wells (out of 20 Wells ⁴)	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) ⁵	Instantaneous System Flow Rate (Meter FT7001)	NPDES Discharge Sample Collected	NPDES Discharge pH Measured	Comments / System Status
Units	% LEL	hours	No. Wells	No. Wells	gal	gal	gpm	Yes/No	pH units	
NPDES Permit No. WA0991007 Effluent Limitations	--	--	--	--	--	--	100	Weekly Sample Outfall #002	6<pH<9	
11/13/18 13:00	0.0	1,700.4	13	13	5,157,564	121,659	61.80	Yes	8.66	
11/21/18 14:00	0.0	1,748.1	8	8	5,313,850	156,286	58.80	Yes	7.86	
1/11/19 10:00	0.0	1,823.4	4	0	5,602,531	288,681	74.80	Yes	7.21	
1/17/19 14:00	0.0	1,860.6	4	0	5,753,975	151,444	52.20	Yes	7.47	
1/24/19 13:00	0.0	1,878.1	9	0	5,814,693	60,718	65.00	Yes	7.63	
1/29/19 12:00	0.0	1,908.7	9	0	5,911,004	96,311	57.60	Yes	7.89	
2/21/19 13:40	0.0	1,957.9	6	0	6,072,481	161,477	58.30	Yes	7.76	
2/26/19 15:30	0.0	2,013.3	5	0	6,238,746	166,265	51.20	Yes	7.27	
3/6/19 12:30	0.0	2,098.0	6	0	6,442,883	204,137	45.40	Yes	7.22	
3/14/19 12:00	0.0	2,182.6	6	0	6,652,843	209,960	43.30	Yes	7.38	
3/22/19 14:00	0.0	2,183.5	6	0	6,654,670	1,827	55.20	Yes	7.89	
3/29/19 12:15	0.0	2,256.6	7	0	6,875,732	221,062	48.20	Yes	7.65	
4/2/19 14:00	0.0	2,304.4	7	0	6,990,685	114,953	45.50	Yes	7.31	
4/11/19 14:00	0.0	2,355.5	7	0	7,112,336	121,651	49.60	Yes	7.29	
4/17/19 13:00	0.0	2,408.2	7	0	7,234,324	121,988	43.40	Yes	7.47	
4/25/19 15:00	0.0	2,451.7	7	0	7,332,269	97,945	48.30	Yes	7.51	
5/2/19 13:00	0.0	2,511.0	7	0	7,465,452	133,183	41.00	Yes	7.75	
5/9/19 15:05	0.0	2,600.2	7	0	7,663,809	198,357	40.80	Yes	7.46	
5/17/19 15:00	0.0	2,696.0	7	0	7,857,022	193,213	31.30	Yes	7.39	
5/23/19 13:00	0.0	2,766.2	6	0	7,988,633	131,611	34.40	Yes	7.19	
5/30/19 14:30	0.0	2,838.8	6	0	8,126,323	137,690	37.80	Yes	7.69	
6/6/19 16:00	0.0	2,914.7	6	0	8,285,853	159,530	27.70	Yes	7.63	
8/2/19 14:40	0.0	2,962.5	4	0	8,364,915	79,062	50.00	No	--	
8/8/19 11:20	0.0	2,975.3	4	0	8,418,484	53,569	85.00	Yes	7.64	System off upon arrival. Started a 15:45
8/15/19 14:09	0.0	2,999.4	13	0	8,534,853	116,369	83.20	Yes	8.06	4 wells on upon arrival
8/21/19 11:58	0.0	3,034.3	13	0	8,697,340	162,487	77.30	Yes	8.55	
9/5/19 13:10	0.0	3,103.6	13	13	8,892,797	195,457	71.60	Yes	8.20	
9/9/19 11:51	0.0	3,106.3	13	0	8,900,386	7,589	73.30	Yes	7.92	SVE off due to VFD error
9/23/19 15:30	0.0	3,137.7	13	13	9,021,914	121,528	78.80	Yes	7.38	
2/4/20 13:40	0.0	3,177.2	9	0	9,178,051	156,137	84.00	Yes	8.84	
2/13/20 11:05	0.0	3,239.9	10	10	9,456,431	278,380	68.20	Yes	8.96	
2/28/20 15:40	0.0	3,416.4	10	10	10,073,197	616,766	34.20	Yes	8.98	
3/4/20 11:30	0.0	3,472.2	10	10	10,260,777	187,580	38.70	Yes	8.85	
3/18/20 15:50	0.0	3,502.4	10	14	10,373,178	112,401	68.50	Yes	8.66	
3/31/20 13:30	0.0	3,573.0	10	10	10,599,779	226,601	62.20	Yes	8.94	
4/6/20 13:30	0.0	3,644.4	9	10	10,856,710	256,931	54.80	Yes	7.93	
4/17/20 16:00	0.0	3,734.6	10	9	11,156,534	299,824	41.50	Yes	7.96	
4/20/20 13:50	0.0	3,765.9	9	9	11,245,437	88,903	52.80	Yes	8.38	

**Table 4-1
Groundwater Extraction Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington**

Date and Time (mm/dd/yy hh:mm ¹)	DPE System Enclosure LEL (Meter GT7911) ² .	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells ³)	Number of Active Soil Vapor Extraction Wells (out of 20 Wells ⁴)	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) ⁵ .	Instantaneous System Flow Rate (Meter FT7001)	NPDES Discharge Sample Collected	NPDES Discharge pH Measured	Comments / System Status
Units	% LEL	hours	No. Wells	No. Wells	gal	gal	gpm	Yes/No	pH units	
NPDES Permit No. WA0991007 Effluent Limitations	--	--	--	--	--	--	100	Weekly Sample Outfall #002	6<pH<9	
5/1/20 16:15	0.0	3,854.2	9	10	11,540,845	295,408	54.50	Yes	8.50	
5/6/20 13:30	0.0	3,908.8	9	10	11,691,273	150,428	55.60	Yes	8.25	
5/13/20 10:15	0.0	3,930.1	9	10	11,747,891	56,618	49.60	Yes	8.76	
5/19/20 13:20	0.0	4,004.1	10	10	11,941,723	250,450	49.70	Yes	8.74	
5/26/20 11:45	0.0	4,055.7	9	10	12,060,302	118,579	32.40	Yes	8.72	
6/6/20 14:30	0.0	4,112.1	7	10	12,199,807	139,505	38.20	Yes	8.64	
7/1/20 17:00	0.0	4,128.5	10	10	12,232,233	32,426	81.10	Yes	8.88	
7/10/20 10:30	0.0	4,207.4	10	10	12,544,484	312,251	76.90	Yes	8.94	
8/7/20 13:45	0.0	4,236.5	10	10	12,654,351	109,867	75.60	No	11.50	
8/10/20 10:10	0.0	4,266.1	10	10	12,781,634	127,283	74.70	No	--	
8/19/20 13:30	0.0	4,363.9	10	10	13,157,080	375,446	34.50	Yes	7.84	SVE not operating properly due to VCV
8/26/20 12:00	0.0	4,413.6	10	0	13,326,665	169,585	65.00	Yes	7.37	GW on, SVE off
9/2/20 9:30	0.0	4,486.9	10	0	13,590,662	263,997	50.40	Yes	7.73	SVE off

Table 4-2
Vapor Extraction Data
Former Unoco Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time	Soil Vapor Extraction Operation Data				Extracted Soil Vapor Data - Pre-Blower				Extracted Soil Vapor Data - Post-Blower					Mass Removal Calculation			Comments	
	Blower Cumulative Operating Period		Blower Operating Period	Manual Dilution Valve	Vacuum Pre-dilution (PT-701)	Vacuum Post-dilution (PT-702)	Temperature (TT-701)	SVE System Flow Rate (FT-702)	Pressure (PT703)	Temperature (TT-704)	SVE System Flow Rate (FT-701)	Post-Blower VOCs Concentration ³ (VSP-801)	Lower Explosive Limit ⁴ (VSP-801)	Post-Blower GRO Concentration ⁵ (Lab. Data)	Period VOCs Mass Removal Rate ⁶	Period Discharge Time ⁷		Cumulative VOCs Mass Removed ⁸
	mm/dd/yy hh:mm ¹	Blower ID ²	hours	hours	% open	in Hg	in Hg	°F	scfm	in H ₂ O	°F	scfm	ppmv	%	ppmv	lbs/day		days
DPE System Soil Vapor Extraction Testing: 12/05/17																		
DPE System Soil Vapor Extraction Start-up: 12/11/17																		
12/13/17 9:02	701	46.3	0.0	0	0.4	10.0	42.3	350	15.0	56.2	325	378.8	6	#N/A	40.32	0.0	0.00	
	702	33.3	0.0	0														
	703	14.1	0.0	Closed														
12/13/17 13:59	701	51.1	5.2	0	0.4	10.1	48.6	350	15.0	63.7	323	364.6	0	290	38.57	0.2	8.36	
	702	38.1	5.2	0														
	703	14.1	0.0	Closed														
12/14/17 14:00	701	71.9	20.4	0	0.4	9.8	46.3	345	16.0	61.6	330	308.2	0	#N/A	33.31	0.9	36.67	
	702	58.9	20.4	0														
	703	14.1	0.0	Closed														
12/20/17 12:40	701	149.8	78.3	0	0.6	12.7	47.4	385	14.0	83.8	315	177.5	0	160	18.31	3.3	96.41	
	702	136.0	77.9	0														
	703	14.1	0.0	Closed														
12/27/17 11:55	701	244.5	94.7	0	0.9	11.1	49.5	375	16.6	71.6	344	129.8	0	100	14.62	3.9	154.12	
	702	230.1	94.1	0														
	703	14.1	0.0	Closed														
1/5/18 14:15	701	274.9	30.4	0	1.0	11.7	50.8	375	15.8	82.5	336	121.9	0	#N/A	13.41	3.9	206.83	
	702	324.4	94.3	0														
	703	14.1	0.0	Closed														
1/9/18 16:15	701	282.8	7.9	0	1.3	6.7	47.8	255	8.3	52.0	215	95.2	0	#N/A	6.70	0.3	209.03	
	702	329.2	4.8	0														
	703	14.1	0.0	Closed														
1/18/18 14:00	701	351.8	69.0	0	1.3	6.7	51.2	250	8.1	55.2	202	44.1	0	#N/A	2.92	2.9	217.42	
	702	350.8	21.6	Closed														
	703	14.1	0.0	Closed														
1/24/18 15:20	701	362.0	10.2	0	1.4	17.2	47.8	380	9.4	99.5	232	39.0	0	#N/A	2.96	3.6	228.14	
	702	437.6	86.8	0														
	703	14.1	0.0	Closed														
2/1/18 10:00	701	502.4	140.4	0	0.8	9.3	46.9	315	13.0	43.5	305	25.9	0	#N/A	2.59	5.9	243.33	
	702	578.5	140.9	0														
	703	14.1	0.0	Closed														
2/8/18 9:50	701	580.6	78.2	0	0.9	7.5	50.5	233	6.1	35.1	171	17.1	0	#N/A	0.96	3.3	246.45	
	702	617.9	39.4	0														
	703	14.1	0.0	Closed														
2/13/18 9:20	701	697.6	117.0	0	1.3	1.7	39.2	240	10.8	0.0	332	172.6	11	#N/A	18.77	4.9	337.94	
	702	617.9	0.0	0														
	703	14.1	0.0	Closed														
2/20/18 13:40	701	729.1	31.5	0	0.9	8.1	44.5	235	6.0	28.3	165	39.1	0	18	2.11	1.5	341.16	
	702	654.5	36.6	Closed														
	703	14.1	0.0	Closed														
2/28/18 12:45	701	850.6	121.5	0	1.3	8.5	50.7	275	12.1	32.1	245	22.2	0	#N/A	1.78	5.1	350.18	
	702	754.2	99.7	0														
	703	14.1	0.0	Closed														
3/8/18 10:50	701	914.6	64.0	0	1.4	9.9	47.8	270	8.5	0.0	220	18.1	0	#N/A	1.30	4.7	356.24	
	702	865.8	111.6	0														
	703	14.1	0.0	Closed														
3/14/18 11:50	701	1,033.4	118.8	0	1.2	11.4	49.2	281	8.7	0.0	208	10.1	0	20	0.69	5.0	359.72	
	702	986.9	121.1	0														
	703	14.1	0.0	Closed														
5/8/18 14:50	701	1,057.1	0.0	0	1.1	6.4	71.1	315	18.5	64.6	350	6.8	0	#N/A	0.78	0.0	359.72	
	702	1,001.7	0.0	0														
	703	14.1	0.0	Closed														
5/18/18 15:15	701	1,082.7	25.6	Closed	0.9	7.0	69.8	213	5.8	71.4	175	5.0	0	34	0.29	7.1	361.76	
	702	1,172.7	171.0	0														
	703	14.1	0.0	Closed														

Table 4-2
Vapor Extraction Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time	Soil Vapor Extraction Operation Data				Extracted Soil Vapor Data - Pre-Blower				Extracted Soil Vapor Data - Post-Blower					Mass Removal Calculation			Comments	
	Blower Cumulative Operating Period		Blower Operating Period	Manual Dilution Valve	Vacuum Pre-dilution (PT-701)	Vacuum Post-dilution (PT-702)	Temperature (TT-701)	SVE System Flow Rate (FT-702)	Pressure (PT703)	Temperature (TT-704)	SVE System Flow Rate (FT-701)	Post-Blower VOCs Concentration ³	Lower Explosive Limit ⁴	Post-Blower GRO Concentration ⁵	Period VOCs Mass Removal Rate ⁶	Period Discharge Time ⁷		Cumulative VOCs Mass Removed ⁸
	mm/dd/yy hh:mm ¹	Blower ID ²	hours	hours	% open	in Hg	in Hg	°F	scfm	in H ₂ O	°F	scfm	ppmv	%	ppmv	lbs/day		days
5/23/18 15:00	701	1,082.7	0.0	Closed	1.3	7.6	79.3	214	5.6	62.2	179	11.1	0	#N/A	0.65	5.9	365.59	
	702	1,314.0	141.3	0														
	703	14.1	0.0	Closed														
5/29/18 19:30	701	1,082.7	0.0	Closed	1.2	1.1	67.9	169	6.4	35.8	188	38.4	0	#N/A	2.36	5.8	379.18	
	702	1,452.0	138.0	0														
	703	14.1	0.0	Closed														
6/7/18 13:40	701	1,164.3	81.6	0	1.7	2.6	65.9	290	17.9	101	350	26.3	0	#N/A	3.01	3.4	389.43	
	702	1,532.8	80.8	0														
	703	14.1	0.0	Closed														
6/15/18 12:15	701	1,258.9	94.6	0	1.1	4.9	74.1	230	10.9	30.8	258	22.0	6	#N/A	1.86	4.1	397.02	
	702	1,630.8	98.0	0														
	703	14.1	0.0	Closed														
7/5/18 11:45	701	1,258.9	0.0	0	1.0	10.3	75.8	245	7.5	58.3	209	17.0	0	#N/A	1.16	7.9	406.26	
	702	1,821.2	190.4	0														
	703	14.1	0.0	Closed														
7/11/18 10:55	701	1,258.9	0.0	0	1.3	6.6	74.0	225	4.5	40.3	246	38.0	0	#N/A	3.06	5.9	424.32	
	702	1,962.8	141.6	0														
	703	14.1	0.0	Closed														
7/19/18 14:00	701	1,258.9	0.0	0	0.9	6.4	73.3	214	2.2	0.0	245	27.0	4	#N/A	2.17	0.5	425.48	
	702	1,975.6	12.8	0														
	703	14.1	0.0	Closed														
7/26/18 14:15	701	1,258.9	0.0	0	1.0	7.1	78.9	264	8.9	0.0	283	21.0	0	#N/A	1.95	5.2	435.60	
	702	2,100.4	124.8	0														
	703	14.1	0.0	Closed														
8/3/18 15:00	701	1,351.4	92.5	0	1.1	5.2	72.5	220	8.1	29.8	250	23.0	0	#N/A	1.88	3.9	442.87	
	702	2,193.1	92.7	0														
	703	14.1	0.0	Closed														
8/7/18 12:10	701	1,351.4	0.0	0	1.1	10.2	76.6	225	5.3	53.0	208	22.0	0	#N/A	1.50	3.9	448.66	
	702	2,285.8	92.7	0														
	703	14.1	0.0	Closed														
8/15/18 13:30	701	1,516.6	165.2	0	1.2	10.7	76.9	235	7.7	55.2	228	21.0	0	#N/A	1.57	7.0	459.59	
	702	2,453.1	167.3	0														
	703	14.1	0.0	Closed														
10/10/18 17:00	701	1,516.6	0.0	Closed	--	--	--	--	--	--	--	--	--	#N/A			SVE Off	
	702	2,453.1	0.0	Closed														
	703	14.1	0.0	Closed														
10/18/18 14:10	701	1,517.4	0.8	0	1.0	5.0	60.4	128	3.3	26.8	149	30.1	9	#N/A	1.47	0.0	459.64	
	702	2,453.3	0.2	0														
	703	14.1	0.0	Closed														
10/26/18 12:00	701	1,535.1	17.7	0	1.3	1.1	60.8	119	7.7	20.8	167	10.1	0	#N/A	0.55	0.7	460.05	
	702	2,453.3	0.0	0														
	703	14.1	0.0	Closed														
11/7/18 16:05	701	1,538.3	3.2	0	0.8	10.5	53.0	224	8.7	120*	214	18.0	0	#N/A	1.26	0.1	460.22	*TT-704 not working, reading collected from the gauge TI-107
	702	2,453.4	0.1	0														
	703	14.1	0.0	Closed														
11/13/18 13:10	701	1,637.9	99.6	0	0.9	3.7	54.9	218	10.3	120*	285	17.5	0	#N/A	1.63	4.2	466.99	*TT-704 not working, reading collected from the gauge TI-107
	702	2,550.8	97.4	0														
	703	14.1	0.0	Closed														
11/21/18 14:05	701	1,733.0	95.1	0	1.5	7.2	55.6	232	14.1	120*	252	3.8	0	#N/A	0.31	4.0	468.24	*TT-704 not working, reading collected from the gauge TI-107
	702	2,644.7	93.9	0														
	703	14.1	0.0	Closed														
9/23/19 17:00	701	1,950.8	217.8	0	1.2	4.6	62.5	188	11.7	31.6	274	25.1	0	#N/A	2.25	9.1	488.69	
	702	2,862.6	217.9	0														
	703	14.1	0.0	Closed														
2/28/20 17:40	701	2,328.8	378.0	0	1.7	3.8	51.0	158	9.0	0.0	230	7.8	0	#N/A	0.59	15.8	497.94	
	702	3,240.7	378.1	0														
	703	14.1	0.0	Closed														

Table 4-2
Vapor Extraction Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time	Soil Vapor Extraction Operation Data				Extracted Soil Vapor Data - Pre-Blower				Extracted Soil Vapor Data - Post-Blower						Mass Removal Calculation			Comments
	Blower Cumulative Operating Period		Blower Operating Period	Manual Dilution Valve	Vacuum Pre-dilution (PT-701)	Vacuum Post-dilution (PT-702)	Temperature (TT-701)	SVE System Flow Rate (FT-702)	Pressure (PT703)	Temperature (TT-704)	SVE System Flow Rate (FT-701)	Post-Blower VOCs Concentration ³ (VSP-801)	Lower Explosive Limit ⁴ (VSP-801)	Post-Blower GRO Concentration ⁵ (Lab. Data)	Period VOCs Mass Removal Rate ⁶	Period Discharge Time ⁷	Cumulative VOCs Mass Removed ⁸	
	mm/dd/yy hh:mm ¹	Blower ID ²	hours	hours	% open	in Hg	in Hg	°F	scfm	in H ₂ O	°F	scfm	ppmv	%	ppmv	lbs/day	days	
3/4/20 11:32	701	2,425.7	96.9	10	1.2	3.4	52.5	152	15.8	0.0	231	6.2	0	#N/A	0.47	4.0	499.84	
	702	3,337.7	97.0	10														
	703	14.1	0.0	Closed														
3/18/20 15:50	701	2,480.0	54.3	10	1.7	3.5	61.3	153	18.1	0.0	235	5.9	0	#N/A	0.45	2.3	500.87	
	702	3,392.2	54.5	10														
	703	14.1	0.0	Closed														
3/31/20 13:35	701	2,612.3	132.3	10	1.6	3.4	58.1	137	28.1	0.0	231	1.2	0	#N/A	0.09	5.5	501.37	
	702	3,516.6	124.4	10														
	703	14.1	0.0	Closed														
4/6/20 13:30	701	2,745.6	133.3	10	1.6	3.4	64.8	136	11.6	65.0	229	0.0	0	#N/A	0.00	5.9	501.37	
	702	3,657.2	140.6	10														
	703	14.1	0.0	Closed														
4/17/20 16:00	701	2,908.0	162.4	10	1.7	3.2	66.1	91	11.2	0.0	231	5.8	0	#N/A	0.44	6.8	504.36	
	702	3,820.6	163.4	10														
	703	14.1	0.0	Closed														
4/20/20 13:50	701	2,961.6	53.6	10	1.5	3.3	71.3	94	10.7	120.0	238	4.5	0	#N/A	0.35	2.2	505.14	
	702	3,874.3	53.7	10														
	703	14.1	0.0	Closed														
5/1/20 0:00	701	3,135.6	174.0	10	1.6	3.0	67.4	105	10.2	120.0	237	2.6	#N/A	#N/A	0.20	7.3	506.61	
	702	4,048.4	174.1	10														
	703	14.1	0.0	Closed														
5/6/20 0:00	701	3,224.4	88.8	10	1.1	2.6	68.4	137	15.9	120.0	234	2.4	#N/A	#N/A	0.18	3.7	507.29	
	702	4,137.3	88.9	10														
	703	14.1	0.0	Closed														
5/13/20 0:00	701	3,260.1	35.7	10	1.7	3.1	68.3	126	16.8	0.0	236	1.5	#N/A	#N/A	0.12	1.5	507.46	
	702	4,173.0	35.7	10														
	703	14.1	0.0	Closed														
5/19/20 13:34	701	3,366.5	106.4	10	1.5	2.9	75.3	169	10.4	125.0	229	1.7	#N/A	#N/A	0.13	4.4	508.03	
	702	4,279.4	106.4	10														
	703	14.1	0.0	Closed														
5/26/20 14:20	701	3,431.4	64.9	10	1.4	2.8	69.7	73	17.7	0.0	228	0.0	#N/A	#N/A	0.00	2.7	508.03	
	702	4,344.3	64.9	10														
	703	14.1	0.0	Closed														
6/6/20 14:30	701	3,567.8	136.4	10	1.8	3.5	68.8	118	2.0	120.0	218	3.4	#N/A	#N/A	0.24	5.7	509.41	
	702	4,480.8	136.5	10														
	703	14.1	0.0	Closed														
7/1/20 17:00	701	3,591.3	23.5	10	1.6	3.0	67.8	133	3.3	120.0	231	0.6	#N/A	#N/A	0.05	1.0	509.45	
	702	4,503.9	23.1	10														
	703	14.1	0.0	Closed														
7/10/20 10:30	701	3,773.5	182.2	10	1.3	2.7	71.8	130	19.8	23.5	234	6.5	#N/A	#N/A	0.50	7.6	513.24	
	702	4,686.4	182.5	10														
	703	14.1	0.0	Closed														
8/7/20 13:45	701	3,834.3	60.8	10	1.3	2.6	80.1	120	20.2	28.0	237	1.2	#N/A	#N/A	0.09	2.5	513.48	
	702	4,747.1	60.7	10														
	703	14.1	0.0	Closed														
8/10/20 10:10	701	3,902.7	68.4	10	1.3	2.6	72.3	130	17.3	25.9	240	3.5	#N/A	#N/A	0.28	2.9	514.26	
	702	4,815.6	68.5	10														
	703	14.1	0.0	Closed														
8/19/20 13:30	701	4,106.3	203.6	10	1.7	1.6	79.6	117	17.7	125.0	242	0.0	#N/A	#N/A	0.00	8.5	514.26	SVE not operating properly due to VCV
	702	5,019.2	203.6	10														
	703	14.1	0.0	Closed														
8/26/20 12:00	701	4,109.7	3.4	0	NA	NA	NA	NA	NA	NA	NA	NA	#N/A	#N/A	#N/A	0.1	#N/A	SVE not operating properly due to VCV
	702	5,022.5	3.3	0														
	703	14.1	0.0	0														
9/2/20 9:30	701	4,109.7	0.0	0	NA	NA	NA	NA	NA	NA	NA	NA	#N/A	#N/A	#N/A	0.0	#N/A	SVE not operating properly due to VCV
	702	5,022.5	0.0	0														
	703	14.1	0.0	0														

Table 4-3.
Vapor Extraction Data – Laboratory Data and Mass Removal
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date and Time	Soil Vapor Extraction Operation Data		GRO Mass Removal Calculation			Benzene Mass Removal Calculation		
	Blower Cumulative Operating Period	SVE System Flow Rate (FT-701)	GRO Concentration ² (VSP-801)	GRO Mass Removal Rate ³	Cumulative GRO Mass Removed ⁴	Benzene Concentration ⁵ (VSP-801)	Benzene Removal Rate ⁶	Cumulative Benzene Mass Removed ⁷
mm/dd/yy hh:mm ¹	cumulative hours	scfm	ppmv	lbs/day	lbs	ppmv	lbs/day	lbs
DPE System Soil Vapor Extraction Testing: 12/05/17								
DPE System Soil Vapor Extraction Start-up: 12/11/17								
12/14/17 14:00	71.9	330	290	36.36	109	2.4	0.24	0.70
12/20/17 12:40	149.8	315	160	19.15	199	0.91	0.09	1.22
12/27/17 11:55	244.5	344	100	13.07	263	0.48	0.05	1.49
2/20/18 13:40	729.1	165	18	1.13	406	0.28	0.01	2.12
3/14/18 11:50	1,033.4	208	20	1.58	423	0.17	0.01	2.27
5/18/18 15:15	1,172.7	175	34	2.26	434	0.0011	0.00	2.31
7/26/18 14:15	2,100.4	283	17	1.83	513	0.046	0.00	2.38
10/18/18 14:10	2,453.3	149	38	2.15	543	0.640	0.03	2.62
4/17/20 13:12	3,820.6	231	11	0.97	631	0.0023	0.00	3.43

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-01												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4001)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-01	2/4/20 13:44	23.00	2.00	21.00	14.58	-6.42	6 / 0.5	No	203,072.9	4,254.70	1.0	On
DPE-01	2/13/20 10:07	23.00	1.26	21.74	14.58	-7.16	6 / 0.5	Yes	211,161.8	8,088.90	1.6	On
DPE-01	2/28/20 15:41	23.00	1.78	21.22	14.58	-6.64	6 / 0.5	Yes	226,622.3	15,460.50	1.4	On
DPE-01	3/4/20 13:48	23.00	0.64	22.36	14.58	-7.78	6 / 0.5	Yes	231,023.6	4,401.30	1.4	On
DPE-01	3/18/20 14:05	23.00	4.25	18.75	14.58	-4.17	6 / 0.5	Yes	235,375.0	4,351.40	0.1	On
DPE-01	3/31/20 13:42	23.00	0.47	22.53	14.58	-7.95	6 / 0.5	Yes	239,783.3	4,408.30	0.9	On
DPE-01	4/6/20 13:38	23.00	6.96	16.04	14.58	-1.46	6 / 0.5	Yes	245,035.7	5,252.40	1.0	On
DPE-01	4/17/20 16:02	23.00	4.01	18.99	14.58	-4.41	6 / 0.5	Yes	252,844.8	7,809.10	0.0	On
DPE-01	4/20/20 14:00	23.00	0.56	22.44	14.58	-7.86	6 / 0.5	Yes	255,159.8	2,315.00	0.0	On
DPE-01	5/1/20 16:15	23.00	0.50	22.50	14.58	-7.92	6 / 0.5	Yes	263,060.10	7,900.30	1.1	On
DPE-01	5/6/20 13:36	23.00	0.74	22.26	14.58	-7.68	6 / 0.5	Yes	267,233.30	4,173.20	1.4	On
DPE-01	5/13/20 10:21	23.00	1.43	21.57	14.58	-6.99	6 / 0.5	Yes	268,981.20	1,747.90	1.0	On
DPE-01	5/19/20 13:26	23.00	6.13	16.87	14.58	-2.29	6 / 0.5	Yes	274,888.30	5,907.10	0.0	On
DPE-01	5/26/20 12:34	23.00	0.63	22.37	14.58	-7.79	6 / 0.5	Yes	275,913.40	1,025.10	1.1	On
DPE-01	6/6/20 14:30	23.00	13.39	9.61	14.58	4.97	6 / 0.5	Yes	276,640.60	727.20	0.0	Off
DPE-01	7/1/20 17:00	23.00	1.67	21.33	14.58	-6.75	6 / 0.5	Yes	276,861.20	220.60	0.9	On
DPE-01	7/10/20 11:54	23.00	0.52	22.48	14.58	-7.90	6 / 0.5	Yes	287,878.50	11,017.30	0.0	On
DPE-01	8/7/20 13:50	23.00	1.13	21.87	14.58	-7.29	6 / 0.5	Yes	290,649.20	2,770.70	0.9	On
DPE-01	8/10/20 11:26	23.00	0.63	22.37	14.58	-7.79	6 / 0.5	Yes	294,771.30	4,122.10	0.9	On
DPE-01	8/19/20 13:45	23.00	6.12	16.88	14.58	-2.30	6 / 0.5	Yes	304,684.10	9,912.80	1.4	On
DPE-01	8/26/20 12:00	23.00	0.68	22.32	14.58	-7.74	6 / 0.5	No	309,839.50	5,155.40	0.0	On
DPE-01	9/2/20 9:30	23.00	1.89	21.11	14.58	-6.53	6 / 0.5	No	317,277.00	7,437.50	1.5	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-02												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4002)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-02	2/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	2/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	2/28/20 15:41	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/4/20 13:48	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/18/20 14:05	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/31/20 13:42	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	4/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	6/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-03												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4003)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-03	2/4/20 13:45	20.50	8.29	12.21	13.94	1.73	6 / 0.5	No	1,639,688.5	22,524.70	5.2	On
DPE-03	2/13/20 10:07	20.50	6.14	14.36	13.94	-0.42	6 / 0.5	Yes	1,687,400.3	47,711.80	5.6	On
DPE-03	2/28/20 15:41	20.50	6.09	14.41	13.94	-0.47	6 / 0.5	Yes	1,788,903.9	101,503.60	5.2	On
DPE-03	3/4/20 13:48	20.50	5.92	14.58	13.94	-0.64	6 / 0.5	Yes	1,820,363.5	31,459.60	5.6	On
DPE-03	3/18/20 14:06	20.50	6.02	14.48	13.94	-0.54	6 / 0.5	Yes	1,837,906.5	17,543.00	0.6	On
DPE-03	3/31/20 13:42	20.50	6.33	14.17	13.94	-0.23	6 / 0.5	Yes	1,879,006.5	41,100.00	5.6	On
DPE-03	4/6/20 13:38	20.50	6.44	14.06	13.94	-0.12	6 / 0.5	Yes	1,903,100.2	24,093.70	5.8	On
DPE-03	4/17/20 16:20	20.50	5.95	14.55	13.94	-0.61	6 / 0.5	Yes	1,955,559.8	52,459.60	5.2	On
DPE-03	4/20/20 14:00	20.50	6.78	13.72	13.94	0.22	6 / 0.5	Yes	1,971,366.1	15,806.30	5.8	On
DPE-03	5/1/20 16:15	20.50	6.01	14.49	13.94	-0.55	6 / 0.5	Yes	2,024,949.40	53,583.30	5.4	On
DPE-03	5/6/20 13:36	20.50	6.14	14.36	13.94	-0.42	6 / 0.5	Yes	2,053,005.80	28,056.40	5.6	On
DPE-03	5/13/20 10:25	20.50	7.39	13.11	13.94	0.83	6 / 0.5	Yes	2,063,965.20	10,959.40	5.5	On
DPE-03	5/19/20 13:25	20.50	7.59	12.91	13.94	1.03	6 / 0.5	Yes	2,084,031.10	20,065.90	5.4	On
DPE-03	5/26/20 12:42	20.50	12.28	8.22	13.94	5.72	6 / 0.5	Yes	2,103,004.80	18,973.70	0.0	Off
DPE-03	6/6/20 14:30	20.50	7.63	12.87	13.94	1.07	6 / 0.5	Yes	2,108,812.00	5,807.20	5.4	On
DPE-03	7/1/20 17:00	20.50	12.64	7.86	13.94	6.08	6 / 0.5	Yes	2,115,105.50	6,293.50	0.0	Off
DPE-03	7/10/20 11:55	20.50	6.56	13.94	13.94	0.00	6 / 0.5	Yes	2,138,639.50	23,534.00	5.4	On
DPE-03	8/7/20 13:50	20.50	6.97	13.53	13.94	0.41	6 / 0.5	Yes	2,157,318.60	18,679.10	5.4	On
DPE-03	8/10/20 11:27	20.50	6.44	14.06	13.94	-0.12	6 / 0.5	Yes	2,179,463.50	22,144.90	5.6	On
DPE-03	8/19/20 13:45	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	Yes	2,242,086.30	62,622.80	4.8	On
DPE-03	8/26/20 12:00	20.50	6.33	14.17	13.94	-0.23	6 / 0.5	No	2,272,152.80	114,834.20	5.2	On
DPE-03	9/2/20 9:30	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	2,316,613.30	137,149.80	5.0	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-04												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4004)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-04	2/4/20 13:46	20.50	11.88	8.62	13.83	5.21	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	2/13/20 10:08	20.50	10.84	9.66	13.83	4.17	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	2/28/20 15:41	20.50	10.60	9.90	13.83	3.93	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	3/4/20 13:49	20.50	10.10	10.40	13.83	3.43	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	3/18/20 14:08	20.50	10.47	10.03	13.83	3.80	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	3/31/20 13:43	20.50	10.49	10.01	13.83	3.82	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	4/6/20 13:39	20.50	10.65	9.85	13.83	3.98	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	4/17/20 16:03	20.50	10.16	10.34	13.83	3.49	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	4/20/20 14:02	20.50	10.97	9.53	13.83	4.30	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	5/1/20 16:15	20.50	10.19	10.31	13.83	3.52	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	5/6/20 16:39	20.50	10.22	10.28	13.83	3.55	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	5/13/20 10:29	20.50	11.54	8.96	13.83	4.87	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	5/19/20 13:26	20.50	11.44	9.06	13.83	4.77	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	5/26/20 12:30	20.50	12.44	8.06	13.83	5.77	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	6/6/20 14:31	20.50	11.54	8.96	13.83	4.87	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	7/1/20 17:00	20.50	12.61	7.89	13.83	5.94	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	7/10/20 11:57	20.50	10.47	10.03	13.83	3.80	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	8/7/20 13:50	20.50	10.64	9.86	13.83	3.97	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	8/10/20 11:28	20.50	10.36	10.14	13.83	3.69	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	8/19/20 13:45	20.50	10.23	10.27	13.83	3.56	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	8/26/20 12:01	20.50	10.55	9.95	13.83	3.88	10 / 8	No	687,076.6	0.00	0.0	Off
DPE-04	9/2/20 9:31	20.50	10.28	10.22	13.83	3.61	10 / 8	No	687,076.6	0.00	0.0	Off

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-05												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4005)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-05	2/4/20 13:47	23.00	6.92	16.08	15.33	-0.75	6 / 0.5	No	1,268,068.2	18,081.90	5.6	On
DPE-05	2/13/20 10:07	23.00	6.03	16.97	15.33	-1.64	6 / 0.5	Yes	1,311,656.9	43,588.70	5.0	On
DPE-05	2/28/20 15:43	23.00	6.01	16.99	15.33	-1.66	6 / 0.5	Yes	1,394,950.0	83,293.10	4.8	On
DPE-05	3/4/20 13:49	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	Yes	1,419,635.0	24,685.00	4.2	On
DPE-05	3/18/20 14:09	23.00	6.01	16.99	15.33	-1.66	6 / 0.5	Yes	1,433,687.3	14,052.30	0.5	On
DPE-05	3/31/20 13:43	23.00	5.94	17.06	15.33	-1.73	6 / 0.5	Yes	1,446,634.4	12,947.10	4.8	On
DPE-05	4/6/20 13:39	23.00	12.66	10.34	15.33	4.99	6 / 0.5	Yes	1,484,522.3	37,887.90	0.0	Off
DPE-05	4/17/20 16:03	23.00	5.98	17.02	15.33	-1.69	6 / 0.5	Yes	1,515,514.2	30,991.90	4.2	On
DPE-05	4/20/20 14:02	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	Yes	1,528,037.2	12,523.00	4.6	On
DPE-05	5/1/20 16:16	23.00	6.05	16.95	15.33	-1.62	6 / 0.5	Yes	1,570,433.30	42,396.10	4.2	On
DPE-05	5/6/20 16:39	23.00	6.08	16.92	15.33	-1.59	6 / 0.5	Yes	1,592,528.40	22,095.10	4.2	On
DPE-05	5/13/20 10:30	23.00	6.04	16.96	15.33	-1.63	6 / 0.5	Yes	1,601,484.20	8,955.80	4.8	On
DPE-05	5/19/20 13:26	23.00	6.04	16.96	15.33	-1.63	6 / 0.5	Yes	1,630,406.60	28,922.40	4.6	On
DPE-05	5/26/20 12:38	23.00	5.93	17.07	15.33	-1.74	6 / 0.5	Yes	1,647,391.40	16,984.80	4.8	On
DPE-05	6/6/20 14:31	23.00	5.95	17.05	15.33	-1.72	6 / 0.5	Yes	1,673,097.20	25,705.80	5.0	On
DPE-05	7/1/20 17:00	23.00	6.07	16.93	15.33	-1.60	6 / 0.5	Yes	1,679,581.10	6,483.90	4.8	On
DPE-05	7/10/20 11:58	23.00	5.96	17.04	15.33	-1.71	6 / 0.5	Yes	1,728,653.50	49,072.40	4.4	On
DPE-05	8/7/20 13:50	23.00	5.95	17.05	15.33	-1.72	6 / 0.5	Yes	1,743,604.70	14,951.20	5.8	On
DPE-05	8/10/20 11:29	23.00	5.93	17.07	15.33	-1.74	6 / 0.5	Yes	1,761,790.50	18,185.80	4.6	On
DPE-05	8/19/20 13:45	23.00	6.05	16.95	15.33	-1.62	6 / 0.5	Yes	1,812,447.20	50,656.70	4.2	On
DPE-05	8/26/20 12:01	23.00	5.95	17.05	15.33	-1.72	6 / 0.5	No	1,838,013.40	94,408.70	4.6	On
DPE-05	9/2/20 9:31	23.00	5.98	17.02	15.33	-1.69	6 / 0.5	No	1,875,893.80	114,103.30	4.4	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-06												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4006)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-06	2/4/20 13:48	20.50	12.58	7.92	15.34	7.42	2 / 0.5	No	11,064.0	290.60	0.0	Off
DPE-06	2/13/20 10:09	20.50	10.81	9.69	15.34	5.65	2 / 0.5	Yes	11,064.0	0.00	0.0	Off
DPE-06	2/28/20 15:43	20.50	9.45	11.05	15.34	4.29	2 / 0.5	No	11,064.0	0.00	0.0	Off
DPE-06	3/4/20 13:50	20.50	9.53	10.97	15.34	4.37	2 / 0.5	No	11,064.0	0.00	0.0	Off
DPE-06	3/18/20 14:10	20.50	9.84	10.66	15.34	4.68	2 / 0.5	No	11,064.0	0.00	0.0	Off
DPE-06	3/31/20 13:43	20.50	10.82	9.68	15.34	5.66	2 / 0.5	No	11,064.0	0.00	0.0	Off
DPE-06	4/6/20 13:39	20.50	0.32	20.18	15.34	-4.84	2 / 0.5	No	11,085.8	21.80	0.0	Interlock
DPE-06	4/17/20 16:03	20.50	9.15	11.35	15.34	3.99	2 / 0.5	No	11,086.3	0.50	0.0	Off
DPE-06	4/20/20 14:02	20.50	10.39	10.11	15.34	5.23	2 / 0.5	No	11,086.3	0.00	0.0	Off
DPE-06	5/1/20 16:16	20.50	8.85	11.65	15.34	3.69	2 / 0.5	No	11,086.30	0.00	0.0	Off
DPE-06	5/6/20 16:39	20.50	10.13	10.37	15.34	4.97	2 / 0.5	No	11,092.40	6.10	0.0	Off
DPE-06	5/13/20 10:30	20.50	11.19	9.31	15.34	6.03	2 / 0.5	No	11,092.40	0.00	0.0	Off
DPE-06	5/19/20 13:26	20.50	9.99	10.51	15.34	4.83	2 / 0.5	No	11,099.30	6.90	0.0	Off
DPE-06	5/26/20 12:26	20.50	9.93	10.57	15.34	4.77	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	6/6/20 14:31	20.50	10.65	9.85	15.34	5.49	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	7/1/20 17:00	20.50	10.01	10.49	15.34	4.85	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	7/10/20 11:58	20.50	9.84	10.66	15.34	4.68	2 / 0.5	Yes	11,099.30	0.00	0.0	Off
DPE-06	8/7/20 13:50	20.50	9.76	10.74	15.34	4.60	2 / 0.5	Yes	11,099.30	0.00	0.0	Off
DPE-06	8/10/20 11:29	20.50	9.54	10.96	15.34	4.38	2 / 0.5	Yes	11,099.30	0.00	0.0	Off
DPE-06	8/19/20 13:45	20.50	9.01	11.49	15.34	3.85	2 / 0.5	Yes	11,099.30	0.00	0.0	Off
DPE-06	8/26/20 12:01	20.50	9.14	11.36	15.34	3.98	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	9/2/20 9:31	20.50	9.07	11.43	15.34	3.91	2 / 0.5	No	11,099.30	0.00	0.0	Off

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-07												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4007)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-07	2/4/20 13:49	22.50	1.94	20.56	13.68	-6.88	2 / 0.5	No	295,908.5	10,546.30	3.0	On
DPE-07	2/13/20 10:09	22.50	2.07	20.43	13.68	-6.75	2 / 0.5	Yes	318,151.6	22,243.10	3.0	On
DPE-07	2/28/20 15:43	22.50	1.92	20.58	13.68	-6.90	2 / 0.5	Yes	373,524.6	55,373.00	2.4	On
DPE-07	3/4/20 13:50	22.50	2.07	20.43	13.68	-6.75	2 / 0.5	Yes	396,312.9	22,788.30	8.4	On
DPE-07	3/18/20 14:11	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	409,740.8	13,427.90	0.4	On
DPE-07	3/31/20 13:44	22.50	1.97	20.53	13.68	-6.85	2 / 0.5	Yes	439,798.0	30,057.20	4.0	On
DPE-07	4/6/20 13:40	22.50	1.97	20.53	13.68	-6.85	2 / 0.5	Yes	474,359.8	34,561.80	4.2	On
DPE-07	4/17/20 16:04	22.50	2.07	20.43	13.68	-6.75	2 / 0.5	Yes	496,064.6	21,704.80	4.0	On
DPE-07	4/20/20 14:04	22.50	2.02	20.48	13.68	-6.80	2 / 0.5	Yes	509,009.7	12,945.10	2.8	On
DPE-07	5/1/20 16:17	22.50	2.01	20.49	13.68	-6.81	2 / 0.5	Yes	556,168.90	47,159.20	2.8	On
DPE-07	5/6/20 13:41	22.50	1.94	20.56	13.68	-6.88	2 / 0.5	Yes	581,673.10	25,504.20	2.3	On
DPE-07	5/13/20 10:30	22.50	1.98	20.52	13.68	-6.84	2 / 0.5	Yes	592,079.20	10,406.10	5.2	On
DPE-07	5/19/20 13:27	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	624,199.00	32,119.80	4.6	On
DPE-07	5/26/20 12:27	22.50	1.97	20.53	13.68	-6.85	2 / 0.5	Yes	637,217.10	13,018.10	4.8	On
DPE-07	6/6/20 14:32	22.50	2.02	20.48	13.68	-6.80	2 / 0.5	Yes	641,967.20	4,750.10	5.6	On
DPE-07	7/1/20 17:00	22.50	1.99	20.51	13.68	-6.83	2 / 0.5	Yes	649,603.80	7,636.60	6.0	On
DPE-07	7/10/20 11:59	22.50	1.96	20.54	13.68	-6.86	2 / 0.5	Yes	711,163.10	61,559.30	5.8	On
DPE-07	8/7/20 13:51	22.50	2.03	20.47	13.68	-6.79	2 / 0.5	Yes	731,644.90	20,481.80	6.2	On
DPE-07	8/10/20 11:30	22.50	2.02	20.48	13.68	-6.80	2 / 0.5	Yes	756,046.30	24,401.40	6.8	On
DPE-07	8/19/20 13:47	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	828,491.30	72,445.00	5.0	On
DPE-07	8/26/20 12:02	22.50	2.01	20.49	13.68	-6.81	2 / 0.5	No	860,276.90	128,632.00	5.6	On
DPE-07	9/2/20 9:32	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	No	906,866.20	150,819.90	5.0	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-08												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4008)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-08	2/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	2/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	4/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	6/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-09												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4009)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-09	2/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	2/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	4/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	6/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-10												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4010)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-10	2/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	2/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	4/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	6/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-11												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4011)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-11	2/4/20 13:50	23.00	9.18	13.82	14.27	0.45	6 / 0.5	No	1,653,718.5	-0.10	0.0	
DPE-11	2/13/20 10:10	23.00	8.29	14.71	14.27	-0.44	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	2/28/20 15:43	23.00	8.7	14.30	14.27	-0.03	6 / 0.5	Yes	1,653,718.5	0.00	0.0	
DPE-11	3/4/20 13:50	23.00	8.35	14.65	14.27	-0.38	6 / 0.5	Yes	1,653,718.5	0.00	0.0	
DPE-11	3/18/20 14:12	23.00	8.51	14.49	14.27	-0.22	6 / 0.5	Yes	1,653,718.5	0.00	0.0	
DPE-11	3/31/20 13:44	23.00	8.93	14.07	14.27	0.20	6 / 0.5	Yes	1,653,718.5	0.00	0.0	
DPE-11	4/6/20 13:40	23.00	8.76	14.24	14.27	0.03	6 / 0.5	Yes	1,653,718.5	0.00	0.0	
DPE-11	4/17/20 16:04	23.00	8.57	14.43	14.27	-0.16	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	4/20/20 14:04	23.00	9.24	13.76	14.27	0.51	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	5/1/20 16:17	23.00	8.76	14.24	14.27	0.03	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	5/6/20 13:41	23.00	9.44	13.56	14.27	0.71	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	5/13/20 10:31	23.00	9.64	13.36	14.27	0.91	6 / 0.5	No	1,653,718.5	0.00	0.0	
DPE-11	5/19/20 13:27	23.00	9.13	13.87	14.27	0.40	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	5/26/20 12:50	23.00	15.67	7.33	14.27	6.94	6 / 0.5	Yes	1,653,718.5	0.00	0.0	Off
DPE-11	6/6/20 14:32	23.00	16.09	6.91	14.27	7.36	6 / 0.5	Yes	1,653,718.5	0.00	0.0	Off
DPE-11	7/1/20 17:00	23.00	9.89	13.11	14.27	1.16	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	7/10/20 12:00	23.00	9.64	13.36	14.27	0.91	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	8/7/20 13:51	23.00	9.91	13.09	14.27	1.18	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	8/10/20 11:30	23.00	9.53	13.47	14.27	0.80	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	8/19/20 13:47	23.00	9.37	13.63	14.27	0.64	6 / 0.5	Yes	1,653,718.5	0.00	0.0	On
DPE-11	8/26/20 12:02	23.00	9.64	13.36	14.27	0.91	6 / 0.5	No	1,653,718.5	0.00	0.0	On
DPE-11	9/2/20 9:32	23.00	9.26	13.74	14.27	0.53	6 / 0.5	No	1,653,718.5	0.00	0.0	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-12												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4012)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-12-R	2/4/20 13:50	22.00	11.64	10.36	14.30	3.94	10.2 / 4	No	1,747,414.5	39,589.00	11.0	On
DPE-12-R	2/13/20 10:10	22.00	11.17	10.83	14.30	3.47	10.2 / 4	Yes	1,790,856.9	43,442.40	11.0	On
DPE-12-R	2/28/20 15:43	22.00	10.86	11.14	14.30	3.16	10.2 / 4	Yes	1,984,187.8	193,330.90	10.8	On
DPE-12-R	3/4/20 13:51	22.00	10.37	11.63	14.30	2.67	10.2 / 4	Yes	2,045,616.6	61,428.80	10.8	On
DPE-12-R	3/18/20 14:13	22.00	10.92	11.08	14.30	3.22	10.2 / 4	Yes	2,079,283.0	33,666.40	1.0	On
DPE-12-R	3/31/20 13:44	22.00	11.56	10.44	14.30	3.86	10.2 / 4	Yes	2,158,180.9	78,897.90	11.0	On
DPE-12-R	4/6/20 13:40	22.00	11.28	10.72	14.30	3.58	10.2 / 4	Yes	2,248,242.3	540,416.80	10.6	On
DPE-12-R	4/17/20 16:04	22.00	11.09	10.91	14.30	3.39	10.2 / 4	Yes	2,353,190.2	104,947.90	10.8	On
DPE-12-R	4/20/20 14:04	22.00	14.44	7.56	14.30	6.74	10.2 / 4	Yes	2,384,581.3	593,724.40	0.0	Off on 4/20/2020
DPE-12-R	5/1/20 16:17	22.00	11.34	10.66	14.30	3.64	10.2 / 4	Yes	2,461,894.9	77,313.60	9.8	On
DPE-12-R	5/6/20 13:41	22.00	11.36	10.64	14.30	3.66	10.2 / 4	Yes	2,513,583.2	467,966.60	10.2	On
DPE-12-R	5/13/20 10:31	22.00	11.63	10.37	14.30	3.93	10.2 / 4	Yes	2,535,452.1	21,868.90	10.4	On
DPE-12-R	5/19/20 13:27	22.00	11.52	10.48	14.30	3.82	10.2 / 4	Yes	2,599,770.5	64,318.40	10.4	On
DPE-12-R	5/26/20 12:43	22.00	11.68	10.32	14.30	3.98	10.2 / 4	Yes	2,636,692.3	36,921.80	9.6	On
DPE-12-R	6/6/20 14:32	22.00	14.95	7.05	14.30	7.25	10.2 / 4	Yes	2,644,329.8	7,637.50	0.0	Off
DPE-12-R	7/1/20 17:00	22.00	11.94	10.06	14.30	4.24	10.2 / 4	Yes	2,646,281.8	1,952.00	9.4	On
DPE-12-R	7/10/20 12:01	22.00	11.57	10.43	14.30	3.87	10.2 / 4	Yes	2,752,800.5	106,518.70	9.8	On
DPE-12-R	8/7/20 13:51	22.00	11.92	10.08	14.30	4.22	10.2 / 4	Yes	2,787,322.3	34,521.80	10.0	On
DPE-12-R	8/10/20 11:31	22.00	11.65	10.35	14.30	3.95	10.2 / 4	Yes	2,829,002.7	41,680.40	10.4	On
DPE-12-R	8/19/20 13:47	22.00	11.32	10.68	14.30	3.62	10.2 / 4	Yes	2,952,841.2	123,838.50	10.0	On
DPE-12-R	8/26/20 12:02	22.00	11.67	10.33	14.30	3.97	10.2 / 4	No	2,981,935.6	194,613.30	10.2	On
DPE-12-R	9/2/20 9:32	22.00	11.43	10.57	14.30	3.73	10.2 / 4	No	3,066,527.5	237,524.80	9.4	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-13												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4013)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-13	2/4/20 13:51	22.50	15.96	6.54	13.77	7.23	2 / 0.5	No	1,041,348.7	21,118.00	0.0	Off
DPE-13	2/13/20 10:11	22.50	15.72	6.78	13.77	6.99	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	2/28/20 15:43	22.50	15.28	7.22	13.77	6.55	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	3/4/20 13:51	22.50	14.97	7.53	13.77	6.24	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	3/18/20 14:13	22.50	15.39	7.11	13.77	6.66	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	3/31/20 13:45	22.50	15.45	7.05	13.77	6.72	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	4/6/20 13:41	22.50	15.35	7.15	13.77	6.62	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	4/17/20 16:05	22.50	15.22	7.28	13.77	6.49	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	4/20/20 14:05	22.50	15.72	6.78	13.77	6.99	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	5/1/20 16:18	22.50	15.22	7.28	13.77	6.49	2 / 0.5	No	1,041,348.7	0.00	0.0	Off
DPE-13	5/6/20 13:42	22.50	15.18	7.32	13.77	6.45	2 / 0.5	No	1,041,352.9	4.20	0.0	Off
DPE-13	5/13/20 10:32	22.50	15.54	6.96	13.77	6.81	2 / 0.5	No	1041352.9	0.00	0.0	Off
DPE-13	5/19/20 13:28	22.50	15.31	7.19	13.77	6.58	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	5/26/20 12:48	22.50	15.53	6.97	13.77	6.80	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	6/6/20 14:33	22.50	16.02	6.48	13.77	7.29	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	7/1/20 17:00	22.50	15.59	6.91	13.77	6.86	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	7/10/20 12:02	22.50	15.29	7.21	13.77	6.56	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	8/7/20 13:52	22.50	15.47	7.03	13.77	6.74	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	8/10/20 11:31	22.50	15.24	7.26	13.77	6.51	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	8/19/20 13:50	22.50	15.12	7.38	13.77	6.39	2 / 0.5	No	1041352.90	0.00	0.0	Off
DPE-13	8/26/20 12:03	22.50	15.28	7.22	13.77	6.55	2 / 0.5	No	1,041,352.9	0.00	0.0	Off
DPE-13	9/2/20 9:33	22.50	15.03	7.47	13.77	6.30	2 / 0.5	No	1,041,352.9	0.00	0.0	Off

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-14												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4014)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-14	2/4/20 13:51	23.00	16.13	6.87	13.67	6.80	8 / 4.0	No	1,177,865.1	10,033.20	0.0	Off
DPE-14	2/13/20 10:11	23.00	15.90	7.10	13.67	6.57	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	2/28/20 15:43	23.00	15.48	7.52	13.67	6.15	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	3/4/20 13:52	23.00	15.2	7.80	13.67	5.87	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	3/18/20 14:14	23.00	15.57	7.43	13.67	6.24	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	3/31/20 13:45	23.00	15.63	7.37	13.67	6.30	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	4/6/20 13:41	23.00	15.51	7.49	13.67	6.18	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	4/17/20 16:05	23.00	15.41	7.59	13.67	6.08	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	4/20/20 14:05	23.00	15.68	7.32	13.67	6.35	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	5/1/20 16:18	23.00	15.39	7.61	13.67	6.06	8 / 4.0	No	1,177,865.1	0.00	0.0	Off
DPE-14	5/6/20 13:42	23.00	15.34	7.66	13.67	6.01	8 / 4.0	No	1,177,869.9	4.80	0.0	Off
DPE-14	5/13/20 10:32	23.00	15.69	7.31	13.67	6.36	8 / 4.0	No	1,177,869.9	0.00	0.0	Off
DPE-14	5/19/20 13:28	23.00	15.47	7.53	13.67	6.14	8 / 4.0	No	1,177,870.0	0.10	0.0	Off
DPE-14	5/26/20 12:44	23.00	15.67	7.33	13.67	6.34	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	6/6/20 14:33	23.00	15.97	7.03	13.67	6.64	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	7/1/20 17:00	23.00	15.76	7.24	13.67	6.43	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	7/10/20 12:03	23.00	15.44	7.56	13.67	6.11	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	8/7/20 13:52	23.00	15.63	7.37	13.67	6.30	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	8/10/20 11:32	23.00	15.41	7.59	13.67	6.08	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	8/19/20 13:50	23.00	15.28	7.72	13.67	5.95	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	8/26/20 12:03	23.00	15.42	7.58	13.67	6.09	8 / 4.0	No	1,177,870.0	0.00	0.0	Off
DPE-14	9/2/20 9:33	23.00	15.18	7.82	13.67	5.85	8 / 4.0	No	1,177,870.0	0.00	0.0	Off

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-15												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4014)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-15	2/4/20 13:52	20.70	4.14	16.56	15.75	-0.81	26 / 24.0	No	560,881.4	28,875.7	6.2	
DPE-15	2/13/20 10:12	20.70	3.76	16.94	15.75	-1.19	26 / 24.0	Yes	611,601.6	50,720.2	6.0	
DPE-15	2/28/20 15:43	20.70	3.97	16.73	15.75	-0.98	26 / 24.0	Yes	713,455.1	101,853.5	5.6	
DPE-15	3/4/20 13:52	20.70	2.84	17.86	15.75	-2.11	26 / 24.0	Yes	745,100.0	31,644.9	4.8	
DPE-15	3/18/20 14:15	20.70	2.85	17.85	15.75	-2.10	26 / 24.0	Yes	762,164.6	17,064.6	0.6	
DPE-15	3/31/20 13:45	20.70	2.94	17.76	15.75	-2.01	26 / 24.0	Yes	802,820.3	40,655.7	4.6	
DPE-15	4/6/20 13:41	20.70	2.96	17.74	15.75	-1.99	26 / 24.0	Yes	848,482.9	45,662.6	5.4	
DPE-15	4/17/20 16:05	20.70	3.00	17.70	15.75	-1.95	26 / 24.0	Yes	902,963.0	54,480.1	5.4	
DPE-15	4/20/20 14:05	20.70	3.00	17.70	15.75	-1.95	26 / 24.0	Yes	918,990.4	307,388.8	5.4	
DPE-15	5/1/20 16:18	20.70	3.15	17.55	15.75	-1.80	26 / 24.0	Yes	974,906.6	55,916.2	5.6	
DPE-15	5/6/20 13:42	20.70	3.07	17.63	15.75	-1.88	26 / 24.0	Yes	988,553.2	243,453.2	0.0	
DPE-15	5/13/20 10:33	20.70	3.93	16.77	15.75	-1.02	26 / 24.0	Yes	989,201.6	648.4	5.5	
DPE-15	5/19/20 13:28	20.70	3.13	17.57	15.75	-1.82	26 / 24.0	Yes	1,024,030.8	34,829.2	5.4	On
DPE-15	5/26/20 12:05	20.70	3.16	17.54	15.75	-1.79	26 / 24.0	Yes	1,044,323.1	20,292.3	5.5	On
DPE-15	6/6/20 14:33	20.70	2.83	17.87	15.75	-2.12	26 / 24.0	Yes	1,089,068.3	44,745.2	7.6	On
DPE-15	7/1/20 17:00	20.70	9.97	10.73	15.75	5.02	26 / 24.0	Yes	1,096,510.3	7,442.0	5.4	On
DPE-15	7/10/20 12:04	20.70	3.32	17.38	15.75	-1.63	26 / 24.0	Yes	1,155,023.6	58,513.3	5.5	On
DPE-15	8/7/20 13:52	20.70	3.32	17.38	15.75	-1.63	26 / 24.0	Yes	1,174,160.2	19,136.6	5.4	On
DPE-15	8/10/20 11:32	20.70	3.30	17.40	15.75	-1.65	26 / 24.0	Yes	1,196,201.5	22,041.3	5.6	On
DPE-15	8/19/20 13:50	20.70	3.94	16.76	15.75	-1.01	26 / 24.0	Yes	1,261,053.5	64,852.0	5.4	On
DPE-15	8/26/20 12:03	20.70	4.02	16.68	15.75	-0.93	26 / 24.0	No	1,292,145.2	117,985.0	5.4	On
DPE-15	9/2/20 9:33	20.70	4.10	16.60	15.75	-0.85	26 / 24.0	No	1,338,446.4	142,244.9	5.4	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-16												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4014)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-16	2/4/20 13:53	20.70	7.87	12.83	16.14	3.31	26 / 25.0	No	550,063.2	23,877.7	5.4	On
DPE-16	2/13/20 10:13	20.70	7.50	13.20	16.14	2.94	26 / 25.0	Yes	593,810.2	43,747.0	5.2	On
DPE-16	2/28/20 15:43	20.70	6.94	13.76	16.14	2.38	26 / 25.0	Yes	686,357.2	92,547.0	5.2	On
DPE-16	3/4/20 13:53	20.70	7.34	13.36	16.14	2.78	26 / 25.0	Yes	715,718.3	29,361.1	5.2	On
DPE-16	3/18/20 14:16	20.70	7.31	13.39	16.14	2.75	26 / 25.0	Yes	731,573.1	15,854.8	0.6	On
DPE-16	3/31/20 13:46	20.70	7.32	13.38	16.14	2.76	26 / 25.0	Yes	769,480.3	37,907.2	5.2	On
DPE-16	4/6/20 13:43	20.70	7.20	13.50	16.14	2.64	26 / 25.0	Yes	812,054.3	42,574.0	5.2	On
DPE-16	4/17/20 16:06	20.70	7.01	13.69	16.14	2.45	26 / 25.0	Yes	862,591.9	50,537.6	5.2	On
DPE-16	4/20/20 14:06	20.70	7.20	13.50	16.14	2.64	26 / 25.0	Yes	877,983.0	284,172.8	5.2	On
DPE-16	5/1/20 16:19	20.70	7.13	13.57	16.14	2.57	26 / 25.0	Yes	906,260.2	28,277.2	5.0	On
DPE-16	5/6/20 13:43	20.70	7.22	13.48	16.14	2.66	26 / 25.0	Yes	933,308.9	217,590.6	5.0	On
DPE-16	5/13/20 10:33	20.70	7.32	13.38	16.14	2.76	26 / 25.0	Yes	944,248.6	10,939.7	5.4	On
DPE-16	5/19/20 13:29	20.70	7.16	13.54	16.14	2.60	26 / 25.0	Yes	977,546.5	33,297.9	5.2	On
DPE-16	5/26/20 12:06	20.70	7.28	13.42	16.14	2.72	26 / 25.0	Yes	997,127.8	19,581.3	5.3	On
DPE-16	6/6/20 14:34	20.70	7.07	13.63	16.14	2.51	26 / 25.0	Yes	1,039,579.2	42,451.4	5.2	On
DPE-16	7/1/20 17:00	20.70	7.39	13.31	16.14	2.83	26 / 25.0	Yes	1,046,583.8	7,004.6	5.2	On
DPE-16	7/10/20 12:05	20.70	7.36	13.34	16.14	2.80	26 / 25.0	Yes	1,102,315.9	55,732.1	5.0	On
DPE-16	8/7/20 13:53	20.70	7.39	13.31	16.14	2.83	26 / 25.0	Yes	1,120,501.0	18,185.1	6.0	On
DPE-16	8/10/20 11:33	20.70	7.26	13.44	16.14	2.70	26 / 25.0	Yes	1,141,627.1	21,126.1	5.2	On
DPE-16	8/19/20 13:53	20.70	6.94	13.76	16.14	2.38	26 / 25.0	Yes	1,203,195.5	61,568.4	4.6	On
DPE-16	8/26/20 12:04	20.70	7.30	13.40	16.14	2.74	26 / 25.0	No	1,232,233.0	111,732.0	3.0	On
DPE-16	9/2/20 9:34	20.70	7.20	13.50	16.14	2.64	26 / 25.0	No	1,274,846.0	133,218.9	4.8	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-17												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4014)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-17	2/4/20 13:53	20.70	4.31	16.39	16.35	-0.04	26 / 24.0	No	369,872.5	9,708.7	1.2	On
DPE-17	2/13/20 10:13	20.70	3.78	16.92	16.35	-0.57	26 / 24.0	Yes	386,446.6	16,574.1	1.4	On
DPE-17	2/28/20 15:43	20.70	3.98	16.72	16.35	-0.37	26 / 24.0	Yes	423,951.0	37,504.4	1.2	On
DPE-17	3/4/20 13:53	20.70	2.97	17.73	16.35	-1.38	26 / 24.0	Yes	434,651.4	10,700.4	1.4	On
DPE-17	3/18/20 14:17	20.70	3.97	16.73	16.35	-0.38	26 / 24.0	Yes	440,973.5	6,322.1	0.2	On
DPE-17	3/31/20 13:46	20.70	3.00	17.70	16.35	-1.35	26 / 24.0	Yes	455,014.6	14,041.1	2.0	On
DPE-17	4/6/20 13:43	20.70	3.70	17.00	16.35	-0.65	26 / 24.0	Yes	470,621.5	15,606.9	1.1	On
DPE-17	4/17/20 16:06	20.70	3.66	17.04	16.35	-0.69	26 / 24.0	Yes	488,257.2	17,635.7	0.9	On
DPE-17	4/20/20 14:06	20.70	3.29	17.41	16.35	-1.06	26 / 24.0	Yes	493,587.1	107,140.5	2.4	On
DPE-17	5/1/20 16:19	20.70	9.18	11.52	16.35	4.83	26 / 24.0	Yes	511,211.60	17,624.5	0.0	Off
DPE-17	5/6/20 13:43	20.70	4.28	16.42	16.35	-0.07	26 / 24.0	Yes	516,534.60	81,883.2	0.8	On
DPE-17	5/13/20 10:34	20.70	9.45	11.25	16.35	5.10	26 / 24.0	Yes	520,081.60	3,547.0	0.0	Off
DPE-17	5/19/20 13:29	20.70	3.25	17.45	16.35	-1.10	26 / 24.0	Yes	529,254.80	9,173.2	0.9	On
DPE-17	5/26/20 12:08	20.70	3.74	16.96	16.35	-0.61	26 / 24.0	Yes	536,187.10	6,932.3	1.0	On
DPE-17	6/6/20 14:34	20.70	3.53	17.17	16.35	-0.82	26 / 24.0	Yes	552,640.40	16,453.3	2.8	On
DPE-17	7/1/20 17:00	20.70	3.34	17.36	16.35	-1.01	26 / 24.0	Yes	555,261.20	2,620.8	1.4	On
DPE-17	7/10/20 12:06	20.70	3.80	16.90	16.35	-0.55	26 / 24.0	Yes	575,078.00	19,816.8	1.1	On
DPE-17	8/7/20 13:53	20.70	3.57	17.13	16.35	-0.78	26 / 24.0	Yes	581,350.70	6,272.7	1.4	On
DPE-17	8/10/20 11:33	20.70	3.35	17.35	16.35	-1.00	26 / 24.0	Yes	588,747.50	7,396.8	1.8	On
DPE-17	8/19/20 13:53	20.70	3.95	16.75	16.35	-0.40	26 / 24.0	Yes	608,100.90	19,353.4	1.3	On
DPE-17	8/26/20 12:04	20.70	4.73	15.97	16.35	0.38	26 / 24.0	No	617,319.20	35,968.5	0.6	On
DPE-17	9/2/20 9:34	20.70	4.06	16.64	16.35	-0.29	26 / 24.0	No	630,527.10	41,779.6	1.6	On

Table 4-4
DPE Well Groundwater Operational Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-18												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4014)	Depth to Water ²	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer ³	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate ⁴	Comments
	mm/dd/yy hh:mm ¹	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-18	2/4/20 13:54	20.70	8.68	12.02	14.89	2.87	22 / 20.0	No	603,937.9	1,794.0	0.6	On
DPE-18	2/13/20 10:14	20.70	8.35	12.35	14.89	2.54	22 / 20.0	Yes	606,756.3	2,818.4	0.7	On
DPE-18	2/28/20 15:43	20.70	7.87	12.83	14.89	2.06	22 / 20.0	Yes	619,993.2	13,236.9	0.2	On
DPE-18	3/4/20 13:54	20.70	8.11	12.59	14.89	2.30	22 / 20.0	Yes	622,642.6	2,649.4	4.8	On
DPE-18	3/18/20 14:18	20.70	8.16	12.54	14.89	2.35	22 / 20.0	Yes	624,988.3	2,345.7	0.1	On
DPE-18	3/31/20 13:46	20.70	8.21	12.49	14.89	2.40	22 / 20.0	Yes	629,056.8	4,068.5	0.7	On
DPE-18	4/6/20 13:43	20.70	8.09	12.61	14.89	2.28	22 / 20.0	Yes	634,964.7	5,907.9	0.5	On
DPE-18	4/17/20 16:06	20.70	7.90	12.80	14.89	2.09	22 / 22.0	Yes	639,969.2	5,004.5	0.6	On
DPE-18	4/20/20 14:06	20.70	8.06	12.64	14.89	2.25	22 / 22.0	Yes	641,546.7	34,790.4	0.7	On
DPE-18	5/1/20 16:19	20.70	7.92	12.78	14.89	2.11	22 / 22.0	Yes	646,325.0	4,778.3	0.4	On
DPE-18	5/6/20 13:43	20.70	9.09	11.61	14.89	3.28	22 / 22.0	Yes	649,667.1	27,024.5	0.7	Off
DPE-18	5/13/20 10:34	20.70	8.24	12.46	14.89	2.43	22 / 22.0	Yes	650,789.8	1,122.7	0.6	On
DPE-18	5/19/20 13:29	20.70	8.00	12.70	14.89	2.19	22 / 22.0	Yes	654,021.9	3,232.1	0.4	On
DPE-18	5/26/20 12:22	20.70	8.09	12.61	14.89	2.28	22 / 22.0	Yes	655,687.0	1,665.1	0.4	On
DPE-18	6/6/20 14:34	20.70	7.85	12.85	14.89	2.04	22 / 22.0	Yes	659,805.0	4,118.0	0.3	On
DPE-18	7/1/20 17:00	20.70	8.14	12.56	14.89	2.33	22 / 22.0	Yes	660,246.5	441.5	0.0	On
DPE-18	7/10/20 12:07	20.70	8.13	12.57	14.89	2.32	22 / 22.0	Yes	662,971.7	2,725.2	0.5	On
DPE-18	8/7/20 13:53	20.70	8.09	12.61	14.89	2.28	22 / 22.0	Yes	664,913.9	1,942.2	0.6	On
DPE-18	8/10/20 11:35	20.70	8.04	12.66	14.89	2.23	22 / 22.0	Yes	667,370.4	2,456.5	0.6	On
DPE-18	8/19/20 13:53	20.70	7.80	12.90	14.89	1.99	22 / 22.0	Yes	672,628.8	5,258.4	0.4	On
DPE-18	8/26/20 12:04	20.70	8.08	12.62	14.89	2.27	22 / 22.0	No	674,863.4	9,949.5	0.3	On
DPE-18	9/2/20 9:34	20.70	8.01	12.69	14.89	2.20	22 / 22.0	No	677,112.0	9,741.6	0.2	On

Four new DPE wells were installed in July 2019: DPE-15, DPE-16, DPE-17 and DPE-18. Four wells were deactivated: DPE-2, DPE-8, DPE-9 and DPE-10.

*: Start up with new DPE wells DPE-15, 16, 17 and 18 on August 2, 2019. Testing phase of new DPE wells and carbon change out from July 8 through August 2, 2019

- DPE-2 : DPE-18 DPE-2 on the HMI is now DPE-18 on the system components and the physical well
DPE-2 was last recorded as having pumped 597,961.9 gallons of water on June 6, 2019
DPE-18 began recording gallons pumped at 598,132 gallons of water on August 2, 2019
- DPE-8 : DPE-16 DPE-8 on the HMI is now DPE-16 on the system components and the physical well
DPE-8 was last recorded as having pumped 296,986.6 gallons of water on June 6, 2019
DPE-16 began recording gallons pumped at 296,534 gallons of water on August 2, 2019
- DPE-9 : DPE-17 DPE-9 on the HMI is now DPE-17 on the system components and the physical well
DPE-9 was last recorded as having pumped 308,192.5 gallons of water on June 6, 2019
DPE-17 began recording gallons pumped at 309,544 gallons of water on August 2, 2019
- DPE-10 : DPE-15 DPE-10 on the HMI is now DPE-15 on the system components and the physical well
DPE-10 was last recorded as having pumped 275,539.1 gallons of water on June 6, 2019
DPE-15 began recording gallons pumped at 277,474 gallons of water on August 2, 2019

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-01							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-01	12/13/2017	10:15	100	9.0	11.0	1100.0	
DPE-01	12/13/2017	14:35	100	9.0	9.5	1150.0	
DPE-01	12/14/2017	12:00	100	9.5	8.5	710.5	
DPE-01	12/20/2017	13:30	100	11.0	16.0	489.1	
DPE-01	12/20/2017	13:40	100	10.0	13.5	372.6	
DPE-01	1/5/2018	16:45	100	11.0	13.0	469.6	
DPE-01	1/9/2018	17:00	100	5.0	8.5	399.0	
DPE-01	1/18/2018	14:50	100	5.5	8.0	155.6	
DPE-01	1/25/2018	9:00	100	7.0	7.0	132.8	
DPE-01	2/1/2018	11:00	100	7.0	11.0	102.3	
DPE-01	2/8/2018	10:20	100	6.0	7.0	97.9	
DPE-01	2/16/2018	13:15	100	13.0	15.0	93.2	
DPE-01	2/20/2018	14:30	100	5.5	5.5	122.2	
DPE-01	2/28/2018	14:30	100	7.0	10.0	101.3	
DPE-01	3/8/2018	12:00	100	8.0	8.5	#N/A	Water in line
DPE-01	3/14/2018	12:30	100	8.5	9.0	#N/A	Water in line
DPE-01	5/8/2018	14:10	100	4.5	10.5	49.2	
DPE-01	5/17/2018	16:45	0	0.0	9.0	#N/A	SVE Off
DPE-01	5/23/2018	16:25	0	0.0	10.5	#N/A	SVE Off
DPE-01	5/29/2018	17:00	100	7.0	18.0	#N/A	Water in line
DPE-01	6/7/2018	16:45	100	9.5	23.0	116.5	
DPE-01	6/15/2018	14:00	10	5.0	12.0	148.0	
DPE-01	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-01	7/11/2018	14:10	100	5.5	17.0	53.0	
DPE-01	7/19/2018	15:00	100	5.0	15.0	106.0	
DPE-01	7/26/2018	16:00	100	7.0	21.0	84.0	
DPE-01	8/3/2018	15:30	0	0.0	12.0	#N/A	SVE Off
DPE-01	8/7/2018	12:30	0	0.0	13.0	#N/A	SVE Off
DPE-01	8/15/2018	14:30	0	0.0	13.0	#N/A	SVE Off
DPE-01	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off
DPE-01	10/18/2018	16:00	100	6.0	14.0	135.2	
DPE-01	10/26/2018	16:30	100	6.0	13.0	132.7	
DPE-01	11/7/2018	16:30	100	6.0	18.5	123.7	
DPE-01	11/13/2018	14:00	100	4.0	12.5	93.1	
DPE-01	11/21/2018	14:20	100	5.0	11.0	82.9	
DPE-01	9/23/2019	16:15	100	1.0	4.6	89.5	
DPE-01	2/28/2020	17:50	100	#N/A	1.0	#N/A	
DPE-01	3/4/2020	11:40	100	#N/A	2.5	22.5	
DPE-01	3/18/2020	16:30	100	#N/A	4.0	#N/A	
DPE-01	3/31/2020	14:44	100	#N/A	3.0	17.8	
DPE-01	4/17/2020	16:10	100	2.5	3.0	39.7	
DPE-01	4/20/2020	14:00	100	2.5	4.0	32.4	
DPE-01	5/1/2020	16:55	100	2.0	3.0	23.6	
DPE-01	5/6/2020	14:56	100	1.0	2.0	4.2	
DPE-01	5/13/2020	12:22	100	1.0	2.5	25.2	
DPE-01	5/19/2020	14:20	100	0.5	4.0	27.6	
DPE-01	5/26/2020	15:14	100	0.5	2.0	43.1	
DPE-01	7/1/2020	17:10	100	#N/A	2.0	#N/A	
DPE-01	7/10/2020	11:10	100	0.5	2.0	30.5	
DPE-01	8/7/2020	13:55	100	#N/A	2.0	22.2	
DPE-01	8/10/2020	10:52	100	0.5	1.0	11.0	
DPE-01	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	SVE Off
DPE-01	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	SVE Off
DPE-01	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-02							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ^{2.}	Comments
	mm/dd/yy	hh:mm ^{1.}	% open	in Hg	in Hg	ppmv	
DPE-02	12/13/2017	10:15	100	9.0	9.5	335.8	
DPE-02	12/13/2017	14:35	100	9.0	9.0	374.2	
DPE-02	12/14/2017	12:00	100	9.0	8.5	311.2	
DPE-02	12/20/2017	13:30	100	10.5	13.5	136.4	
DPE-02	12/27/2017	13:40	100	9.5	11	154.1	
DPE-02	1/5/2018	16:45	100	10.0	13.0	140.2	
DPE-02	1/9/2018	17:00	100	5.0	4.5	139.5	
DPE-02	1/18/2018	14:50	100	5.5	7.5	57.8	
DPE-02	1/25/2018	9:00	100	7.0	7.0	46.7	
DPE-02	2/1/2018	11:00	100	6.5	9.0	36.7	
DPE-02	2/8/2018	10:20	100	6.0	6.0	26.3	
DPE-02	2/16/2018	13:15	100	10.0	13.0	21.5	
DPE-02	2/20/2018	14:30	100	6.0	4.5	28.7	
DPE-02	2/28/2018	14:30	100	7.0	9.0	22.2	
DPE-02	3/8/2018	12:00	100	9.0	9.0	16.4	
DPE-02	3/14/2018	12:30	100	9.0	9.5	16.2	
DPE-02	5/8/2018	14:10	100	4.5	10.0	10.3	
DPE-02	5/17/2018	16:45	0	0.0	6.0	#N/A	SVE Off
DPE-02	5/23/2018	16:25	0	0.0	6.0	#N/A	SVE Off
DPE-02	5/29/2018	17:00	100	6.5	13.5	5.3	
DPE-02	6/7/2018	16:45	100	7.0	16.0	11.7	
DPE-02	6/15/2018	14:00	20	2.0	6.0	11.0	
DPE-02	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-02	7/11/2018	14:10	100	5.0	12.0	2.0	
DPE-02	7/19/2018	15:00	100	5.0	11.0	15.0	
DPE-02	7/26/2018	16:00	100	5.0	14.0	2.1	
DPE-02	8/3/2018	15:30	0	0.0	6.0	#N/A	SVE Off
DPE-02	8/7/2018	12:30	0	0.0	6.5	#N/A	SVE Off
DPE-02	8/15/2018	14:30	0	0.0	7.0	#N/A	SVE Off
DPE-02	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off
DPE-02	10/18/2018	16:00	100	5.0	8.0	18.8	
DPE-02	10/26/2018	16:30	100	5.0	7.5	15.3	
DPE-02	11/7/2018	16:30	100	5.5	12.5	8.0	
DPE-02	11/13/2018	14:00	100	4.0	6.5	6.4	
DPE-02	11/21/2018	14:20	100	5.0	7.0	6.8	
DPE-02	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-03							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ^{2.}	Comments
	mm/dd/yy	hh:mm ^{1.}	% open	in Hg	in Hg	ppmv	
DPE-03	12/13/2017	10:15	100	9.0	12.0	365.0	
DPE-03	12/13/2017	14:35	100	9.0	10.5	396.5	
DPE-03	12/14/2017	12:00	100	9.0	10.0	299.1	
DPE-03	12/20/2017	13:30	100	10.0	14.0	89.9	Water in line
DPE-03	12/27/2017	13:40	100	10.0	14.0	57.3	
DPE-03	1/5/2018	16:45	100	11.0	15.0	75.4	
DPE-03	1/9/2018	17:00	100	5.0	5.0	73.2	
DPE-03	1/18/2018	14:50	100	5.0	9.5	29.1	
DPE-03	1/25/2018	9:00	40	2.5	3.0	12.7	
DPE-03	2/1/2018	11:00	100	7.0	10.0	66.2	
DPE-03	2/8/2018	10:20	100	5.5	8.5	26.2	
DPE-03	2/16/2018	13:15	100	13.0	15.0	#N/A	Water in line
DPE-03	2/20/2018	14:30	100	6.0	5.5	36.4	
DPE-03	2/28/2018	14:30	100	7.0	11.0	9.6	
DPE-03	3/8/2018	12:00	100	7.0	10.0	26.7	
DPE-03	3/14/2018	12:30	100	9.5	11.5	7.5	
DPE-03	5/8/2018	14:10	100	5.0	14.5	18.8	
DPE-03	5/17/2018	16:45	0	0.0	9.0	#N/A	SVE Off
DPE-03	5/23/2018	16:25	0	0.0	10.0	#N/A	SVE Off
DPE-03	5/29/2018	17:00	100	7.0	18.0	53.6	
DPE-03	6/7/2018	16:45	100	8.0	21.0	#N/A	Water in line
DPE-03	6/15/2018	14:00	100	6.0	15.0	20.0	
DPE-03	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-03	7/11/2018	14:10	100	5.0	17.0	27.0	
DPE-03	7/19/2018	15:00	100	5.0	15.0	18.0	
DPE-03	7/26/2018	16:00	100	6.5	21.0	16.0	
DPE-03	8/3/2018	15:30	0	0.0	11.0	#N/A	SVE Off
DPE-03	8/7/2018	12:30	0	0.0	12.5	#N/A	SVE Off
DPE-03	8/15/2018	14:30	0	0.0	14.0	#N/A	SVE Off
DPE-03	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off
DPE-03	10/18/2018	16:00	100	9.0	14.0	35.8	
DPE-03	10/26/2018	16:30	100	5.0	14.0	30.1	
DPE-03	11/7/2018	16:30	100	5.0	17.0	19.5	
DPE-03	11/13/2018	14:00	100	4.0	12.5	5.4	
DPE-03	11/21/2018	14:20	100	5.0	12.5	5.6	
DPE-03	9/23/2019	16:17	100	1.0	4.6	19.4	
DPE-03	2/28/2020	17:50	100	#N/A	1.0	#N/A	
DPE-03	3/4/2020	11:52	100	#N/A	2.5	15.2	
DPE-03	3/18/2020	16:30	100	#N/A	2.5	#N/A	
DPE-03	3/31/2020	14:45	100	#N/A	3.0	7.2	
DPE-03	4/17/2020	16:10	100	0.0	3.0	14.4	
DPE-03	4/20/2020	14:00	100	0.0	4.0	15.0	
DPE-03	5/1/2020	16:55	100	0.0	3.0	15.3	
DPE-03	5/6/2020	15:03	100	0.0	2.0	8.2	
DPE-03	5/13/2020	12:26	100	0.0	2.5	5.6	
DPE-03	5/19/2020	14:20	100	0.0	3.0	8.3	
DPE-03	5/26/2020	15:12	100	0.0	2.0	5.6	
DPE-03	7/1/2020	17:10	100	#N/A	2.0	#N/A	
DPE-03	7/10/2020	11:25	100	0.0	2.5	9.6	
DPE-03	8/7/2020	13:55	100	#N/A	2.5	11.2	
DPE-03	8/10/2020	10:53	100	0.0	1.0	5.6	
DPE-03	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-03	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-03	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-04							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-04	12/13/2017	10:15	100	9.0	10.5	596.0	
DPE-04	12/13/2017	14:35	100	9.0	9.5	780.7	
DPE-04	12/14/2017	12:00	100	9.0	9.5	612.5	
DPE-04	12/20/2017	13:30	100	11.0	14.5	520.2	
DPE-04	12/27/2017	13:40	100	10.0	14.0	231.2	
DPE-04	1/5/2018	16:45	100	11.0	14.5	281.2	
DPE-04	1/9/2018	17:00	100	5.5	5.0	307.6	
DPE-04	1/18/2018	14:50	100	5.5	8.0	62.6	
DPE-04	1/25/2018	9:00	50	6.0	5.0	40.1	
DPE-04	2/1/2018	11:00	100	7.0	8.5	47.2	
DPE-04	2/8/2018	10:20	100	6.0	7.0	45.2	
DPE-04	2/16/2018	13:15	100	13.0	15.0	482.1	
DPE-04	2/20/2018	14:30	100	6.0	5.5	56.8	
DPE-04	2/28/2018	14:30	100	7.0	10.5	45.4	
DPE-04	3/8/2018	12:00	100	7.0	9.0	68.2	
DPE-04	3/14/2018	12:30	100	9.5	10.0	27.3	
DPE-04	5/8/2018	14:10	100	5.0	14.0	50.2	
DPE-04	5/17/2018	16:45	0	0.0	7.0	#N/A	SVE Off
DPE-04	5/23/2018	16:25	0	0.0	9.0	#N/A	SVE Off
DPE-04	5/29/2018	17:00	100	7.0	16.0	#N/A	Water in line
DPE-04	6/7/2018	16:45	100	8.0	20.0	73.8	
DPE-04	6/15/2018	14:00	100	6.0	14.0	53.0	
DPE-04	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-04	7/11/2018	14:10	100	5.5	16.0	309.0	
DPE-04	7/19/2018	15:00	100	5.0	14.0	39.0	
DPE-04	7/26/2018	16:00	100	6.5	20.0	54.0	
DPE-04	8/3/2018	15:30	0	0.0	10.0	#N/A	SVE Off
DPE-04	8/7/2018	12:30	0	0.0	11.0	#N/A	SVE Off
DPE-04	8/15/2018	14:30	0	0.0	11.0	#N/A	SVE Off
DPE-04	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	10/18/2018	16:00	0	5.0	9.0	#N/A	SVE Off / Faulted
DPE-04	10/26/2018	16:30	0	5.0	10.0	#N/A	SVE Off / Faulted
DPE-04	11/7/2018	16:30	0	0.0	7.5	#N/A	SVE Off / Faulted
DPE-04	11/13/2018	14:00	0	0.0	7.5	#N/A	SVE Off / Faulted
DPE-04	11/21/2018	14:20	0	0.0	7.5	#N/A	SVE Off / Faulted
DPE-04	9/23/2019	16:15	#N/A	0.0	4.6	#N/A	SVE Off / Faulted
DPE-04	2/28/2020	17:50	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	3/4/2020	13:27	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	3/18/2020	16:30	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	3/31/2020	14:52	0	0.0	0.0	12.7	SVE Off / Faulted
DPE-04	4/17/2020	16:10	0	0.0	0.0	18.2	SVE Off / Faulted
DPE-04	4/20/2020	14:01	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	5/1/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	5/6/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	5/13/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	5/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	5/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	7/1/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	7/10/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	8/7/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	8/10/2020	#N/A	0	0.0	0.0	#N/A	SVE Off / Faulted
DPE-04	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-04	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-04	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-05							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-05	12/13/2017	10:15	100	7.0	8.0	83.3	
DPE-05	12/13/2017	14:35	100	7.0	7.0	88.8	
DPE-05	12/14/2017	12:00	100	6.5	7.0	53.4	
DPE-05	12/20/2017	13:30	100	9.0	13.0	14.0	
DPE-05	12/27/2017	13:40	100	9.0	11.0	5.1	
DPE-05	1/5/2018	16:45	100	9.0	10.5	6.8	
DPE-05	1/9/2018	17:00	100	5.0	4.0	2.6	
DPE-05	1/18/2018	14:50	100	5.0	6.0	2.6	
DPE-05	1/25/2018	9:00	60	5.5	4.5	2.7	
DPE-05	2/1/2018	11:00	100	6.5	7.0	3.1	
DPE-05	2/8/2018	10:20	100	5.5	6.0	3.4	
DPE-05	2/16/2018	13:15	60	7.0	7.0	0.0	
DPE-05	2/20/2018	14:30	100	4.5	4.0	4.8	
DPE-05	2/28/2018	14:30	100	5.5	8.0	3.5	
DPE-05	3/8/2018	12:00	80	7.5	7.5	3.5	
DPE-05	3/14/2018	12:30	80	7.0	9.0	1.0	
DPE-05	5/8/2018	14:10	100	4.5	8.5	1.2	
DPE-05	5/17/2018	16:45	0	0.0	0.0	#N/A	SVE Off
DPE-05	5/23/2018	16:25	0	0.0	0.0	#N/A	SVE Off
DPE-05	5/29/2018	17:00	0	0.0	0.0	#N/A	SVE Off
DPE-05	6/7/2018	16:45	0	5.0	10.0	#N/A	
DPE-05	6/15/2018	14:00	5	0.5	1.5	2.0	
DPE-05	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-05	7/11/2018	14:10	0	0.0	0.0	4.0	SVE Off
DPE-05	7/19/2018	15:00	0	0.0	0.0	#N/A	SVE Off
DPE-05	7/26/2018	16:00	0	0.0	0.0	#N/A	SVE Off
DPE-05	8/3/2018	15:30	0	0.0	0.0	#N/A	SVE Off
DPE-05	8/7/2018	12:30	0	0.0	0.0	#N/A	SVE Off
DPE-05	8/15/2018	14:30	0	0.0	0.0	#N/A	SVE Off
DPE-05	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off
DPE-05	10/18/2018	16:00	100	4.0	4.0	2.9	
DPE-05	10/26/2018	16:30	100	4.5	4.5	3.1	
DPE-05	11/7/2018	16:30	100	5.0	8.0	1.5	
DPE-05	11/13/2018	14:00	100	3.0	2.0	1.2	
DPE-05	11/21/2018	14:20	100	4.0	4.5	1.3	
DPE-05	9/23/2019	16:19	100	3.0	4.6	20.5	
DPE-05	2/28/2020	17:50	100	#N/A	1.5	#N/A	
DPE-05	3/4/2020	13:28	100	#N/A	2.0	1.3	
DPE-05	3/18/2020	16:32	100	#N/A	2.0	#N/A	
DPE-05	3/31/2020	14:41	100	#N/A	2.0	2.5	
DPE-05	4/17/2020	16:12	100	2.0	1.5	6.6	
DPE-05	4/20/2020	14:02	100	0.0	2.0	4.9	
DPE-05	5/1/2020	16:58	100	0.0	1.5	3.3	
DPE-05	5/6/2020	15:10	100	1.6	1.5	2.6	
DPE-05	5/13/2020	12:40	100	1.5	1.5	1.4	
DPE-05	5/19/2020	14:22	100	1.5	1.5	2.9	
DPE-05	5/26/2020	15:18	100	1.5	1.5	7.2	
DPE-05	7/1/2020	17:10	100	#N/A	1.5	#N/A	
DPE-05	7/10/2020	11:38	100	1.5	1.5	17.3	
DPE-05	8/7/2020	13:56	100	#N/A	1.0	10.9	
DPE-05	8/10/2020	10:49	100	1.5	1.5	1.2	
DPE-05	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-05	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-05	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-06							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-06	12/13/2017	10:15	100	9.0	8.0	20.2	
DPE-06	12/13/2017	14:35	100	9.0	8.0	32.5	
DPE-06	12/14/2017	12:00	100	9.0	8.0	11.0	
DPE-06	12/20/2017	13:30	100	11.0	13.0	9.1	
DPE-06	12/27/2017	13:40	100	10	11	4.1	
DPE-06	1/5/2018	16:45	100	10	12	5.8	
DPE-06	1/9/2018	17:00	100	5.0	5.0	3.1	
DPE-06	1/18/2018	14:50	100	5.0	7.5	3.0	
DPE-06	1/25/2018	9:00	100	8.0	9.5	1.7	
DPE-06	2/1/2018	11:00	100	7.0	9.5	2.2	
DPE-06	2/8/2018	10:20	100	6.0	7.5	1.9	
DPE-06	2/16/2018	13:15	100	14.0	15.5	0.0	
DPE-06	2/20/2018	14:30	100	6.0	6.0	3.2	
DPE-06	2/28/2018	14:30	100	7.0	10.0	2.2	
DPE-06	3/8/2018	12:00	100	10.0	10.5	2.0	
DPE-06	3/14/2018	12:30	100	9.5	13.5	0.7	
DPE-06	5/8/2018	14:10	100	5.0	12.0	0.2	
DPE-06	5/17/2018	16:45	0	0.0	6.5	#N/A	SVE Off
DPE-06	5/23/2018	16:25	0	0.0	7.0	#N/A	SVE Off
DPE-06	5/29/2018	17:00	100	7.0	14.0	1.9	
DPE-06	6/7/2018	16:45	100	8.0	18.0	2.5	
DPE-06	6/15/2018	14:00	100	6.0	10.0	1.0	
DPE-06	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE Off
DPE-06	7/11/2018	14:10	0	0.0	7.0	1.0	SVE Off
DPE-06	7/19/2018	15:00	0	0.0	6.0	#N/A	SVE Off
DPE-06	7/26/2018	16:00	0	0.0	8.0	#N/A	SVE Off
DPE-06	8/3/2018	15:30	0	0.0	8.0	#N/A	SVE Off
DPE-06	8/7/2018	12:30	0	0.0	8.5	#N/A	SVE Off
DPE-06	8/15/2018	14:30	0	0.0	8.0	#N/A	SVE Off
DPE-06	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE Off
DPE-06	10/18/2018	16:00	100	4.0	9.0	2.7	
DPE-06	10/26/2018	16:30	100	4.0	8.5	2.8	
DPE-06	11/7/2018	16:30	100	5.5	13.0	1.2	
DPE-06	11/13/2018	14:00	100	3.0	7.5	0.7	
DPE-06	11/21/2018	14:20	100	4.0	7.0	1.1	
DPE-06	9/23/2019	16:19	100	0.0	4.6	13.9	
DPE-06	2/28/2020	17:50	0	0.0	0.0	#N/A	SVE Off
DPE-06	3/4/2020	13:29	0	0.0	0.0	#N/A	SVE Off
DPE-06	3/18/2020	16:32	0	0.0	0.0	#N/A	SVE Off
DPE-06	3/31/2020	14:41	0	0.0	0.0	#N/A	SVE Off
DPE-06	4/17/2020	16:14	0	0.0	0.0	#N/A	SVE Off
DPE-06	4/20/2020	14:02	0	0.0	0.0	#N/A	SVE Off
DPE-06	5/1/2020	16:58	100	0.0	2.0	3.1	
DPE-06	5/6/2020	15:15	100	0.0	0.0	1.5	
DPE-06	5/13/2020	12:40	100	0.0	2.0	1.9	
DPE-06	5/19/2020	14:22	100	0.0	2.5	1.9	
DPE-06	5/26/2020	15:21	100	0.0	1.5	5.0	
DPE-06	7/1/2020	17:10	100	#N/A	2.0	#N/A	
DPE-06	7/10/2020	11:42	100	0.0	2.5	6.9	
DPE-06	8/7/2020	13:56	100	#N/A	2.5	4.9	
DPE-06	8/10/2020	10:48	100	0.0	1.0	1.2	
DPE-06	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-06	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-06	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-07							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-07	12/13/2017	10:15	100	9.0	8.5	740.2	
DPE-07	12/13/2017	14:35	100	9.0	8.5	1006.0	
DPE-07	12/14/2017	12:00	100	9.5	8.0	658.8	
DPE-07	12/20/2017	13:30	100	11.0	14.0	#N/A	Water in line
DPE-07	12/27/2017	13:40	100	9.5	12	274.2	
DPE-07	1/5/2018	16:45	100	11	12	236.2	
DPE-07	1/9/2018	17:00	100	5.5	2.5	207.0	
DPE-07	1/18/2018	14:50	100	5.5	7.0	32.8	
DPE-07	1/25/2018	9:00	50	4.5	4.5	18.9	
DPE-07	2/1/2018	11:00	80	6.5	7.5	9.2	
DPE-07	2/8/2018	10:20	100	6.0	6.0	12.7	
DPE-07	2/16/2018	13:15	100	13.0	13.0	42.6	
DPE-07	2/20/2018	14:30	100	6.0	3.0	32.1	
DPE-07	2/28/2018	14:30	100	6.5	9.0	11.3	
DPE-07	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-07	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-07	5/8/2018	14:10	100	5.0	13.5	#N/A	Water in line
DPE-07	5/17/2018	16:45	0	0.0	8.0	#N/A	SVE off
DPE-07	5/23/2018	16:25	0	0.0	7.0	#N/A	SVE off
DPE-07	5/29/2018	17:00	100	8.0	10.0	#N/A	
DPE-07	6/7/2018	16:45	100	9.0	21.0	39.0	
DPE-07	6/15/2018	14:00	100	5.5	12.5	12.0	
DPE-07	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE off
DPE-07	7/11/2018	14:10	0	0.0	10.0	0.0	SVE off
DPE-07	7/19/2018	15:00	0	0.0	7.0	#N/A	SVE off
DPE-07	7/26/2018	16:00	0	0.0	12.0	#N/A	SVE off
DPE-07	8/3/2018	15:30	0	0.0	9.0	#N/A	SVE off
DPE-07	8/7/2018	12:30	0	0.0	9.5	#N/A	SVE off
DPE-07	8/15/2018	14:30	0	0.0	11.0	#N/A	SVE off
DPE-07	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE off
DPE-07	10/18/2018	16:00	100	0.0	11.0	194.6	
DPE-07	10/26/2018	16:30	100	0.0	10.0	185.6	
DPE-07	11/7/2018	16:30	100	7.0	15.0	226.9	
DPE-07	11/13/2018	14:00	100	5.0	10.0	45.0	
DPE-07	11/21/2018	14:20	100	5.0	10.5	42.6	
DPE-07	9/23/2019	16:20	100	2.5	4.6	42.3	
DPE-07	2/28/2020	17:50	100	#N/A	2.0	#N/A	
DPE-07	3/4/2020	13:53	100	#N/A	2.0	1.3	
DPE-07	3/18/2020	16:32	100	#N/A	2.5	#N/A	
DPE-07	3/31/2020	14:50	100	#N/A	3.0	11.5	
DPE-07	4/17/2020	16:15	100	2.0	4.0	12.7	
DPE-07	4/20/2020	14:04	100	3.0	5.0	10.4	
DPE-07	5/1/2020	16:58	100	2.0	4.0	12.8	
DPE-07	5/6/2020	15:33	100	2.0	3.0	4.7	
DPE-07	5/13/2020	12:30	100	2.5	4.0	17.5	
DPE-07	5/19/2020	14:24	100	2.5	4.0	12.8	
DPE-07	5/26/2020	15:08	100	2.5	3.0	14.4	
DPE-07	7/1/2020	17:10	100	#N/A	3.0	#N/A	
DPE-07	7/10/2020	11:45	100	2.0	3.0	14.6	
DPE-07	8/7/2020	13:56	100	#N/A	3.0	18.7	
DPE-07	8/10/2020	10:58	100	2.0	2.0	5.0	
DPE-07	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-07	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-07	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-08							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-08	12/13/2017	10:15	0	0.0	0.0	#N/A	SVE off
DPE-08	12/13/2017	14:35	0	0.0	0.0	#N/A	SVE off
DPE-08	12/14/2017	12:00	0	0.0	0.0	#N/A	SVE off
DPE-08	12/20/2017	13:30	0	0.0	4.0	#N/A	SVE off
DPE-08	12/27/2017	13:40	0	0.0	4.0	#N/A	SVE off
DPE-08	1/5/2018	16:45	0	0.0	3.0	#N/A	SVE off
DPE-08	1/9/2018	17:00	0	0.0	4.5	#N/A	SVE off
DPE-08	1/18/2018	14:50	0	0.0	0.0	#N/A	SVE off
DPE-08	1/25/2018	9:00	50	4.5	4.5	1.4	
DPE-08	2/1/2018	11:00	50	1.0	4.5	1.5	
DPE-08	2/8/2018	10:20	0	0.0	0.0	#N/A	SVE off
DPE-08	2/16/2018	13:15	0	0.0	0.0	#N/A	SVE off
DPE-08	2/20/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-08	2/28/2018	14:30	50	3.0	7.0	1.6	
DPE-08	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-08	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-08	5/8/2018	14:10	100	--	11	0.0	
DPE-08	5/17/2018	16:45	0	0.0	6.5	#N/A	SVE off
DPE-08	5/23/2018	16:25	0	0.0	7.0	#N/A	SVE off
DPE-08	5/29/2018	17:00	0	0.0	8.0	#N/A	SVE off
DPE-08	6/7/2018	16:45	0	0.0	8.0	#N/A	SVE off
DPE-08	6/15/2018	14:00	0	0.0	8.0	#N/A	SVE off
DPE-08	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE off
DPE-08	7/11/2018	14:10	0	0.0	8.0	#N/A	SVE off
DPE-08	7/19/2018	15:00	0	0.0	0.0	#N/A	SVE off
DPE-08	7/26/2018	16:00	0	0.0	10.0	#N/A	SVE off
DPE-08	8/3/2018	15:30	0	0.0	8.0	#N/A	SVE off
DPE-08	8/7/2018	12:30	0	0.0	8.0	#N/A	SVE off
DPE-08	8/15/2018	14:30	0	0.0	9.0	#N/A	SVE off
DPE-08	10/10/2018	17:10	0	0.0	7.5	#N/A	SVE off
DPE-08	10/18/2018	16:00	0	0.0	7.0	#N/A	SVE off
DPE-08	10/26/2018	16:30	0	0.0	8.0	#N/A	SVE off
DPE-08	11/7/2018	16:30	0	0.0	5.0	#N/A	SVE off
DPE-08	11/13/2018	14:00	100	4.0	8.5	1.6	
DPE-08	11/21/2018	14:20	0	0.0	4.5	#N/A	SVE off
DPE-08	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-09							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ^{2.}	Comments
	mm/dd/yy	hh:mm ^{1.}	% open	in Hg	in Hg	ppmv	
DPE-09	12/13/2017	10:15	0	0.0	0.0	#N/A	SVE off
DPE-09	12/13/2017	14:35	0	0.0	0.0	#N/A	SVE off
DPE-09	12/14/2017	12:00	0	0.0	0.0	#N/A	SVE off
DPE-09	12/20/2017	13:30	0	0.0	0.5	#N/A	SVE off
DPE-09	12/27/2017	13:40	0	0.0	0.5	#N/A	SVE off
DPE-09	1/5/2018	16:45	0	0.0	0.5	#N/A	SVE off
DPE-09	1/9/2018	17:00	0	0.0	0.0	#N/A	SVE off
DPE-09	1/18/2018	14:50	0	0.0	0.0	#N/A	SVE off
DPE-09	1/25/2018	9:00	40	2.0	4.5	44.6	
DPE-09	2/1/2018	11:00	40	3.5	4.0	18.6	
DPE-09	2/8/2018	10:20	0	0.0	0.0	#N/A	SVE off
DPE-09	2/16/2018	13:15	0	0.0	0.0	#N/A	SVE off
DPE-09	2/20/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-09	2/28/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-09	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-09	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-09	5/8/2018	14:10	100	0.0	1.5	0.8	
DPE-09	5/17/2018	16:45	0	0.0	0.0	#N/A	SVE off
DPE-09	5/23/2018	16:25	0	0.0	0.0	#N/A	SVE off
DPE-09	5/29/2018	17:00	0	0.0	0.0	#N/A	SVE off
DPE-09	6/7/2018	16:45	0	0.0	0.0	#N/A	SVE off
DPE-09	6/15/2018	14:00	0	0.0	0.5	#N/A	SVE off
DPE-09	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE off
DPE-09	7/11/2018	14:10	0	0.0	0.0	#N/A	SVE off
DPE-09	7/19/2018	15:00	0	0.0	0.0	#N/A	SVE off
DPE-09	7/26/2018	16:00	0	0.0	2.0	#N/A	SVE off
DPE-09	8/3/2018	15:30	0	0.0	1.0	#N/A	SVE off
DPE-09	8/7/2018	12:30	0	0.0	1.0	#N/A	SVE off
DPE-09	8/15/2018	14:30	0	0.0	2.0	#N/A	SVE off
DPE-09	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE off
DPE-09	10/18/2018	16:00	0	0.0	0.0	#N/A	SVE off
DPE-09	10/26/2018	16:30	0	0.0	0.0	#N/A	SVE off
DPE-09	11/7/2018	16:30	0	0.0	0.0	#N/A	SVE off
DPE-09	11/13/2018	14:00	100	1.0	1.0	3.2	
DPE-09	11/21/2018	14:20	0	0.0	0.0	#N/A	SVE off
DPE-09	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-10							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ^{2.}	Comments
	mm/dd/yy	hh:mm ^{1.}	% open	in Hg	in Hg	ppmv	
DPE-10	12/13/2017	10:15	100	7.0	6.5	98.5	
DPE-10	12/13/2017	14:35	100	7.0	6.5	79.3	
DPE-10	12/14/2017	12:00	100	7.0	7.0	82.1	
DPE-10	12/20/2017	13:30	100	8.5	9.0	#N/A	Water in line
DPE-10	12/27/2017	13:40	100	8	8	39.2	
DPE-10	1/5/2018	16:45	100	7.5	8	#N/A	Water in line
DPE-10	1/9/2018	17:00	100	4.5	3	44.8	
DPE-10	1/18/2018	14:50	100	5.0	5.0	16.8	
DPE-10	1/25/2018	9:00	50	5.0	5.0	18.7	
DPE-10	2/1/2018	11:00	50	4.0	4.0	7.0	
DPE-10	2/8/2018	10:20	0	0.0	0.0	#N/A	SVE off
DPE-10	2/16/2018	13:15	0	0.0	0.0	#N/A	SVE off
DPE-10	2/20/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-10	2/28/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-10	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-10	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-10	5/8/2018	14:10	100	4.0	9.5	0.3	
DPE-10	5/17/2018	16:45	0	0.0	0.0	#N/A	SVE off
DPE-10	5/23/2018	16:25	0	0.0	0.0	#N/A	SVE off
DPE-10	5/29/2018	17:00	0	0.0	0.0	#N/A	SVE off
DPE-10	6/7/2018	16:45	0	0.0	0.0	#N/A	SVE off
DPE-10	6/15/2018	14:00	0	0.0	0.0	#N/A	SVE off
DPE-10	7/5/2018	13:00	0	0.0	0.0	#N/A	SVE off
DPE-10	7/11/2018	14:10	0	0.0	0.0	#N/A	SVE off
DPE-10	7/19/2018	15:00	0	0.0	0.0	#N/A	SVE off
DPE-10	7/26/2018	16:00	0	0.0	2.0	#N/A	SVE off
DPE-10	8/3/2018	15:30	0	0.0	1.0	#N/A	SVE off
DPE-10	8/7/2018	12:30	0	0.0	0.5	#N/A	SVE off
DPE-10	8/15/2018	14:30	0	0.0	2.0	#N/A	SVE off
DPE-10	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE off
DPE-10	10/18/2018	16:00	0	0.0	0.0	#N/A	SVE off
DPE-10	10/26/2018	16:30	0	0.0	0.0	#N/A	SVE off
DPE-10	11/7/2018	16:30	0	0.0	0.0	#N/A	SVE off
DPE-10	11/13/2018	14:00	100	2.0	2.0	1.1	
DPE-10	11/21/2018	14:20	0	0.0	0.0	#N/A	SVE off
DPE-10	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	2/28/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/4/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/18/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	3/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	4/17/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	4/20/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/6/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/13/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	5/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/10/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/19/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-11							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ^{2.}	Comments
	mm/dd/yy	hh:mm ^{1.}	% open	in Hg	in Hg	ppmv	
DPE-11	12/13/2017	10:15	100	9.0	7.0	#N/A	Water in line
DPE-11	12/13/2017	14:35	100	9.0	7.5	#N/A	Water in line
DPE-11	12/14/2017	12:00	100	9.0	8.5	#N/A	Water in line
DPE-11	12/20/2017	13:30	100	10.5	12.0	#N/A	Water in line
DPE-11	12/27/2017	13:40	100	8.5	9.5	#N/A	Water in line
DPE-11	1/5/2018	16:45	100	9	10	#N/A	Water in line
DPE-11	1/9/2018	17:00	100	5.5	5	326.5	
DPE-11	1/18/2018	14:50	100	5.0	5.0	#N/A	Water in line
DPE-11	1/25/2018	9:00	40	4.5	5.0	96.9	
DPE-11	2/1/2018	11:00	40	3.5	5.0	71.8	
DPE-11	2/8/2018	10:20	0	0.0	0.0	#N/A	SVE off
DPE-11	2/16/2018	13:15	0	0.0	0.0	#N/A	SVE off
DPE-11	2/20/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-11	2/28/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-11	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-11	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-11	5/8/2018	14:10	100	4.0	10.0	#N/A	Water in line
DPE-11	5/17/2018	16:45	100	7.0	12.0	1.0	
DPE-11	5/23/2018	16:25	100	9.0	14.0	1.2	
DPE-11	5/29/2018	17:00	100	7.5	12.5	#N/A	Water in line
DPE-11	6/7/2018	16:45	0	0.0	6.0	#N/A	SVE off
DPE-11	6/15/2018	14:00	80	6.0	10.0	198.0	
DPE-11	7/5/2018	13:00	100	9.5	17.5	#N/A	Water in line
DPE-11	7/11/2018	14:10	100	4.0	12.0	81.0	
DPE-11	7/19/2018	15:00	100	4.0	12.0	86.0	
DPE-11	7/26/2018	16:00	100	5.0	14.0	80.0	
DPE-11	8/3/2018	15:30	100	5.0	15.0	125.0	
DPE-11	8/7/2018	12:30	100	9.0	15.0	86.0	
DPE-11	8/15/2018	14:30	100	9.5	16.0	80.0	
DPE-11	10/10/2018	17:10	0	0.0	3.5	#N/A	SVE off
DPE-11	10/18/2018	16:00	0	0.0	4.0	#N/A	SVE off
DPE-11	10/26/2018	16:30	0	0.0	4.0	#N/A	SVE off
DPE-11	11/7/2018	16:30	100	6.0	9.0	#N/A	Water in line
DPE-11	11/13/2018	14:00	100	4.0	9.0	23.0	
DPE-11	11/21/2018	14:20	100	4.0	5.5	21.3	
DPE-11	9/23/2019	16:20	100	0.0	4.6	55.4	
DPE-11	2/28/2020	17:50	100	#N/A	0.0	#N/A	
DPE-11	3/4/2020	13:34	100	#N/A	0.0	48.9	
DPE-11	3/18/2020	16:34	100	#N/A	0.0	#N/A	
DPE-11	3/31/2020	14:35	100	#N/A	0.0	23.0	
DPE-11	4/17/2020	16:15	0	#N/A	0.0	#N/A	SVE off
DPE-11	4/20/2020	14:05	0	#N/A	0.0	#N/A	SVE off
DPE-11	5/1/2020	#N/A	0	#N/A	#N/A	#N/A	SVE off
DPE-11	5/6/2020	15:25	100	2.0	0.0	1.5	
DPE-11	5/13/2020	12:09	100	0.0	0.0	12.8	
DPE-11	5/19/2020	14:25	100	0.5	0.0	50.8	
DPE-11	5/26/2020	14:51	100	0.5	0.0	51.9	
DPE-11	7/1/2020	17:10	100	#N/A	0.0	#N/A	
DPE-11	7/10/2020	11:48	100	1.5	0.0	47.5	
DPE-11	8/7/2020	13:57	100	#N/A	0.0	14.1	
DPE-11	8/10/2020	10:42	100	0.0	0.0	19.0	
DPE-11	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-11	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-11	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-12 / DPE-12-R							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ² .	Comments
	mm/dd/yy	hh:mm ¹ .	% open	in Hg	in Hg	ppmv	
DPE-12	12/13/2017	10:15	0	0.0	0.0	#N/A	SVE off
DPE-12	12/13/2017	14:35	0	0.0	0.0	#N/A	SVE off
DPE-12	12/14/2017	12:00	0	0.0	0.0	#N/A	SVE off
DPE-12	12/20/2017	13:30	0	0.0	0.0	#N/A	SVE off
DPE-12	12/27/2017	13:40	0	0.0	0.0	#N/A	SVE off
DPE-12	1/5/2018	16:45	0	0.0	0.0	#N/A	SVE off
DPE-12	1/9/2018	17:00	0	0.0	0.0	#N/A	SVE off
DPE-12	1/18/2018	14:50	0	0.0	0.0	#N/A	SVE off
DPE-12	1/25/2018	9:00	0	0.0	0.0	#N/A	SVE off
DPE-12	2/1/2018	11:00	0	0.0	0.0	#N/A	SVE off
DPE-12	2/8/2018	10:20	0	0.0	0.0	#N/A	SVE off
DPE-12	2/16/2018	13:15	0	0.0	0.0	#N/A	SVE off
DPE-12	2/20/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-12	2/28/2018	14:30	0	0.0	0.0	#N/A	SVE off
DPE-12	3/8/2018	12:00	0	0.0	0.0	#N/A	SVE off
DPE-12	3/14/2018	12:30	0	0.0	0.0	#N/A	SVE off
DPE-12-R ⁵ .	5/8/2018	14:10	100	3.5	10.5	5.5	
DPE-12-R	5/17/2018	16:45	100	4.0	10.5	2.3	
DPE-12-R	5/23/2018	16:25	100	10.0	15.0	7.2	
DPE-12-R	5/29/2018	17:00	100	5.0	11.0	3.9	
DPE-12-R	6/7/2018	16:45	0	0.0	6.5	#N/A	SVE off
DPE-12-R	6/15/2018	14:00	100	6.5	10.5	5.0	
DPE-12-R	7/5/2018	13:00	100	5.0	17.5	2.0	
DPE-12-R	7/11/2018	14:10	100	0.0	13.0	3.0	
DPE-12-R	7/19/2018	15:00	100	5.5	13.0	7.0	
DPE-12-R	7/26/2018	16:00	100	7.0	15.5	6.0	
DPE-12-R	8/3/2018	15:30	100	7.5	15.0	8.0	
DPE-12-R	8/7/2018	12:30	100	5.0	15.0	8.0	
DPE-12-R	8/15/2018	14:30	100	5.5	16.0	7.0	
DPE-12-R	10/10/2018	17:10	0	0.0	0.0	#N/A	SVE off
DPE-12-R	10/18/2018	16:00	0	0.0	6.0	#N/A	SVE off
DPE-12-R	10/26/2018	16:30	0	0.0	0.0	#N/A	SVE off
DPE-12-R	11/7/2018	16:30	100	4.5	10.0	2.4	
DPE-12-R	11/13/2018	14:00	100	3.0	8.0	2.3	
DPE-12-R	11/21/2018	14:20	100	3.0	8.0	2.3	
DPE-12-R	9/23/2019	16:20	100	0.0	4.6	16.2	
DPE-12-R	2/28/2020	17:50	100	#N/A	0.0	1.7	
DPE-12-R	3/4/2020	13:34	100	#N/A	0.0	12.3	
DPE-12-R	3/18/2020	16:34	100	#N/A	3.9	#N/A	
DPE-12-R	3/31/2020	14:35	100	#N/A	1.0	2.6	
DPE-12-R	4/17/2020	16:18	100	0.0	2.5	6.3	
DPE-12-R	4/20/2020	14:05	100	0.0	3.5	5.4	
DPE-12-R	5/1/2020	17:00	100	0.0	2.0	11.3	
DPE-12-R	5/6/2020	15:30	100	0.0	1.0	3.5	
DPE-12-R	5/13/2020	12:04	100	0.0	2.0	0.9	
DPE-12-R	5/19/2020	14:25	100	0.0	2.8	18.7	
DPE-12-R	5/26/2020	14:48	100	0.0	1.5	2.5	
DPE-12-R	7/1/2020	17:10	100	#N/A	1.5	#N/A	
DPE-12-R	7/10/2020	11:55	100	0.0	2.0	27.2	
DPE-12-R	8/7/2020	13:57	100	#N/A	2.0	4.7	
DPE-12-R	8/10/2020	10:39	100	0.0	0.5	1.2	
DPE-12-R	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-12-R	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-12-R	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-13 ³								
DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-13 Wellhead Vacuum	SVE-1 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	in Hg	ppmv	
DPE-13	12/13/2017	10:15	100	8.0	#N/A	5.5	#N/A	Water in line
DPE-13	12/13/2017	14:35	100	8.0	#N/A	6.0	#N/A	Water in line
DPE-13	12/14/2017	12:00	100	9.0	#N/A	7.5	60.9	
DPE-13	12/20/2017	13:30	100	10.0	7.0	11.0	40.1	
DPE-13	12/27/2017	13:40	100	8.5	6.0	9.0	30.7	
DPE-13	1/5/2018	16:45	100	8.0	5.5	8.0	#N/A	Water in line
DPE-13	1/9/2018	17:00	100	4.5	5.0	3.0	49.7	
DPE-13	1/18/2018	14:50	100	5.0	5.0	5.5	8.2	
DPE-13	1/25/2018	9:00	40	2.5	7.0	4.5	23.0	
DPE-13	2/1/2018	11:00	40	1.0	4.5	4.5	13.6	
DPE-13	2/8/2018	10:20	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	2/16/2018	13:15	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	2/20/2018	14:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	2/28/2018	14:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	3/8/2018	12:00	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	3/14/2018	12:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-13	5/8/2018	14:10	100	6.0	5.0	10.0	3.9	
DPE-13	5/17/2018	16:45	100	8.0	6.0	12.0	1.40	
DPE-13	5/23/2018	16:25	100	10.0	6.5	16.0	15.80	
DPE-13	5/29/2018	17:00	100	8.0	6.0	13.0	7.80	
DPE-13	6/7/2018	16:45	0	0.0	0.0	7.5	#N/A	SVE off
DPE-13	6/15/2018	14:00	100	7.0	5.5	12.5	24.0	
DPE-13	7/5/2018	13:00	100	6.0	7.0	18.5	#N/A	Water in line
DPE-13	7/11/2018	14:10	100	7.0	5.5	15.0	6.0	
DPE-13	7/19/2018	15:00	100	5.0	5.5	13.0	9.0	
DPE-13	7/26/2018	16:00	100	7.0	6.0	17.0	11.0	
DPE-13	8/3/2018	15:30	100	7.0	6.0	18.0	7.0	
DPE-13	8/7/2018	12:30	100	6.5	7.0	18.0	5.0	
DPE-13	8/15/2018	14:30	100	8.0	6.0	19.0	8.0	
DPE-13	10/10/2018	17:10	0	0.0	0.0	0.0	#N/A	SVE Off
DPE-13	10/18/2018	16:00	0	0.0	0.0	8.0	#N/A	SVE Off
DPE-13	10/26/2018	16:30	0	0.0	5.0	5.0	#N/A	SVE Off
DPE-13	11/7/2018	16:30	0	0.0	0.0	4.5	#N/A	SVE Off
DPE-13	11/13/2018	14:00	100	4.0	0.0	5.0	#N/A	Water in line
DPE-13	11/21/2018	14:20	0	0.0	0.0	4.0	#N/A	SVE Off
DPE-13	9/23/2019	16:21	100	0.5	4.6	0.5	35.9	
DPE-13	2/28/2020	17:50	0	#N/A	#N/A	0.0	1.2	SVE Off
DPE-13	3/4/2020	13:37	0	#N/A	#N/A	0.5	6.0	SVE Off
DPE-13	3/18/2020	16:34	0	#N/A	#N/A	0.0	#N/A	SVE Off
DPE-13	3/31/2020	14:34	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	4/17/2020	16:18	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	4/20/2020	14:05	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	5/1/2020	17:00	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	5/6/2020	15:40	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	5/13/2020	12:06	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	5/19/2020	14:26	0	#N/A	#N/A	0.0	12.8	SVE Off
DPE-13	5/26/2020	14:50	0	#N/A	#N/A	0.0	10.1	SVE Off
DPE-13	7/1/2020	17:10	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	7/10/2020	12:49	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	8/7/2020	13:58	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	8/10/2020	10:42	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	8/19/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	8/26/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-13	9/2/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-14 ⁴								
DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-14 Wellhead Vacuum	SVE-2 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	in Hg	ppmv	
DPE-14	12/13/2017	10:15	100	9.0	#N/A	7.0	#N/A	Water in line
DPE-14	12/13/2017	14:35	100	8.5	#N/A	7.5	#N/A	Water in line
DPE-14	12/14/2017	12:00	100	8.0	#N/A	8.0	41.3	
DPE-14	12/20/2017	13:30	100	10.0	5.0	12.0	49.1	
DPE-14	12/27/2017	13:40	100	8.0	6.0	9.0	39.6	
DPE-14	1/5/2018	16:45	100	9.5	6.0	10.5	21.7	
DPE-14	1/9/2018	17:00	100	5.0	2.5	4.5	39.3	
DPE-14	1/18/2018	14:50	100	5.0	4.0	7.0	24.3	
DPE-14	1/25/2018	9:00	100	7.0	5.0	7.0	20.3	
DPE-14	2/1/2018	11:00	100	5.0	4.0	6.5	#N/A	Water in line
DPE-14	2/8/2018	10:20	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	2/16/2018	13:15	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	2/20/2018	14:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	2/28/2018	14:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	3/8/2018	12:00	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	3/14/2018	12:30	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	5/8/2018	14:10	100	4.0	4.0	12.5	#N/A	Water in line
DPE-14	5/17/2018	16:45	100	5.0	4.5	12.0	4.2	
DPE-14	5/23/2018	16:25	100	9.0	5.5	16.0	9.8	
DPE-14	5/29/2018	17:00	100	6.5	6.0	13.0	15.0	
DPE-14	6/7/2018	16:45	0	0.0	0.0	6.5	#N/A	SVE off
DPE-14	6/15/2018	14:00	100	6.0	6.0	11.0	18.0	
DPE-14	7/5/2018	13:00	100	6.5	7.0	18.0	17.0	
DPE-14	7/11/2018	14:10	100	5.0	5.0	14.0	11.0	
DPE-14	7/19/2018	15:00	100	5.0	5.0	11.5	11.0	
DPE-14	7/26/2018	16:00	100	6.0	5.5	16.0	9.0	
DPE-14	8/3/2018	15:30	100	6.0	5.0	16.0	8.0	
DPE-14	8/7/2018	12:30	100	8.0	7.0	16.0	8.0	
DPE-14	8/15/2018	14:30	100	8.0	6.0	16.5	9.0	
DPE-14	10/10/2018	17:10	0	0.0	0.0	0.0	#N/A	SVE Off
DPE-14	10/18/2018	16:00	0	0.0	0.0	7.0	#N/A	SVE Off
DPE-14	10/26/2018	16:30	0	0.0	0.0	6.0	#N/A	SVE Off
DPE-14	11/7/2018	16:30	0	0.0	0.0	6.0	#N/A	SVE Off
DPE-14	11/13/2018	14:00	100	4.0	0.0	7.5	1.0	
DPE-14	11/21/2018	14:20	0	0.0	0.0	6.5	#N/A	SVE Off
DPE-14	9/23/2019	16:21	100	0.0	4.6	0.0	23.7	
DPE-14	2/28/2020	17:50	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	3/4/2020	13:38	0	0.0	0.0	0.0	3.70	SVE off
DPE-14	3/18/2020	16:34	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	3/31/2020	14:34	0	0.0	0.0	0.0	#N/A	SVE off
DPE-14	4/17/2020	16:20	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	4/20/2020	14:05	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	5/1/2020	17:00	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	5/6/2020	15:40	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	5/13/2020	12:06	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	5/19/2020	14:26	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	5/26/2020	14:55	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	7/1/2020	17:10	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	7/10/2020	12:53	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	8/7/2020	13:58	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	8/10/2020	10:42	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	8/19/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	8/26/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off
DPE-14	9/2/2020	#N/A	0	#N/A	#N/A	0.0	0.0	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-15							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	ppmv	
DPE-15	9/23/2019	16:22	100	2.0	4.6	19.8	
DPE-15	2/28/2020	17:50	100	#N/A	1.5	#N/A	
DPE-15	3/4/2020	13:40	100	#N/A	1.5	4.9	
DPE-15	3/18/2020	16:34	100	#N/A	1.0	#N/A	
DPE-15	3/31/2020	14:31	100	#N/A	1.0	1.4	
DPE-15	4/17/2020	16:20	100	#N/A	0.5	4.1	
DPE-15	4/20/2020	14:06	100	#N/A	1.0	3.7	
DPE-15	5/1/2020	17:01	100	#N/A	0.0	8.3	
DPE-15	5/6/2020	15:45	100	1.0	0.0	2.4	
DPE-15	5/13/2020	12:12	100	1.0	0.0	4.6	
DPE-15	5/19/2020	14:28	100	2.0	0.0	7.4	Water in line
DPE-15	5/26/2020	14:58	100	1.0	0.0	9.4	
DPE-15	7/1/2020	17:10	100	#N/A	0.0	#N/A	
DPE-15	7/10/2020	11:58	100	1.0	0.0	14.8	
DPE-15	8/7/2020	13:58	100	#N/A	0.0	7.9	
DPE-15	8/10/2020	10:45	100	0.5	0.0	6.6	
DPE-15	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-15	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-15	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

DPE-16							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	ppmv	
DPE-16	9/23/2019	16:22	100	0.0	4.6	23.2	Water in line
DPE-16	2/28/2020	17:50	100	#N/A	#N/A	0.0	
DPE-16	3/4/2020	13:40	100	#N/A	#N/A	0.0	
DPE-16	3/18/2020	16:34	100	#N/A	#N/A	0.0	
DPE-16	3/31/2020	14:31	100	#N/A	#N/A	0.0	
DPE-16	4/17/2020	16:22	100	#N/A	0.0	2.9	
DPE-16	4/20/2020	14:06	100	#N/A	0.0	5.8	
DPE-16	5/1/2020	17:01	100	#N/A	0.0	6.9	
DPE-16	5/6/2020	15:45	100	#N/A	0.0	1.4	
DPE-16	5/13/2020	12:12	100	0.0	0.0	7.1	
DPE-16	5/19/2020	14:28	100	0.5	0.0	6.3	
DPE-16	5/26/2020	15:02	100	0.5	0.0	7.0	
DPE-16	7/1/2020	17:10	100	#N/A	0.0	#N/A	
DPE-16	7/10/2020	12:00	100	0.5	0.5	12.3	
DPE-16	8/7/2020	13:58	100	#N/A	0.0	5.1	
DPE-16	8/10/2020	10:46	100	0.0	0.0	3.1	
DPE-16	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-16	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-16	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-5
DPE Well Vapor Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

DPE-17							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	ppmv	
DPE-17	9/23/2019	16:22	100	0.0	4.6	182.3	
DPE-17	2/28/2020	17:50	100	#N/A	#N/A	#N/A	
DPE-17	3/4/2020	13:42	100	#N/A	#N/A	6.0	
DPE-17	3/18/2020	16:36	100	#N/A	#N/A	#N/A	
DPE-17	3/31/2020	14:30	100	#N/A	#N/A	1.0	
DPE-17	4/17/2020	16:25	100	#N/A	1.5	2.7	
DPE-17	4/20/2020	14:07	100	#N/A	2.5	5.5	
DPE-17	5/1/2020	17:02	100	#N/A	1.5	6.2	
DPE-17	5/6/2020	15:47	100	#N/A	1.5	1.8	
DPE-17	5/13/2020	12:16	100	0.0	1.5	6.2	
DPE-17	5/19/2020	14:30	100	0.0	1.8	7.0	
DPE-17	5/26/2020	15:06	100	0.0	1.8	8.5	
DPE-17	7/1/2020	17:10	100	#N/A	1.5	#N/A	
DPE-17	7/10/2020	12:03	100	0.0	1.5	9.2	
DPE-17	8/7/2020	13:59	100	#N/A	1.5	5.2	
DPE-17	8/10/2020	10:47	100	0.0	1.5	3.3	
DPE-17	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-17	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-17	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

DPE-18							
DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration ²	Comments
	mm/dd/yy	hh:mm ¹	% open	in Hg	in Hg	ppmv	
DPE-18	9/23/2019	16:20	100	1.0	4.6	32.0	
DPE-18	2/28/2020	17:50	100	#N/A	#N/A	#N/A	
DPE-18	3/4/2020	13:44	100	#N/A	#N/A	11.7	
DPE-18	3/18/2020	16:36	100	#N/A	#N/A	#N/A	
DPE-18	3/31/2020	14:43	100	#N/A	#N/A	5.0	
DPE-18	4/17/2020	16:26	100	#N/A	3.0	8.3	
DPE-18	4/20/2020	14:07	100	#N/A	3.5	12.7	
DPE-18	5/1/2020	17:02	100	#N/A	2.5	17.6	
DPE-18	5/6/2020	15:49	100	#N/A	2.0	5.9	
DPE-18	5/13/2020	12:16	100	2.0	2.5	5.8	
DPE-18	5/19/2020	14:30	100	1.0	3.0	13.6	
DPE-18	5/26/2020	15:16	100	2.0	2.0	22.6	
DPE-18	7/1/2020	17:10	100	#N/A	2.0	#N/A	
DPE-18	7/10/2020	12:05	100	1.0	2.5	29.4	
DPE-18	8/7/2020	13:59	100	#N/A	2.5	10.9	
DPE-18	8/10/2020	10:50	100	0.5	1.0	2.9	
DPE-18	8/19/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-18	8/26/2020	#N/A	0	0.0	0.0	#N/A	SVE Off
DPE-18	9/2/2020	#N/A	0	0.0	0.0	#N/A	SVE Off

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-1	12.96	11/28/2017	9:22	#N/A	DPE-1	17.8	6.22	6.74	DPE system baseline event before system startup - System off
PZ-1	12.96	11/30/2017	15:04	#N/A	DPE-1	17.8	7.51	5.45	DPE system testing
PZ-1	12.96	12/1/2017	15:41	#N/A	DPE-1	17.8	8.85	4.11	DPE system startup (groundwater extraction only)
PZ-1	12.96	12/5/2017	13:13	#N/A	DPE-1	17.8	9.29	3.67	
PZ-1	12.96	12/13/2017	11:51	114.0	DPE-1	17.8	9.48	3.48	
PZ-1	12.96	12/13/2017	15:50	114.0	DPE-1	17.8	9.88	3.08	
PZ-1	12.96	12/14/2017	14:12	116.8	DPE-1	17.8	10.34	2.62	
PZ-1	12.96	12/20/2017	15:16	161.4	DPE-1	17.8	9.04	3.92	
PZ-1	12.96	12/27/2017	12:40	23.8	DPE-1	17.8	9.02	3.94	
PZ-1	12.96	1/5/2018	15:52	556.2	DPE-1	17.8	9.13	3.83	
PZ-1	12.96	1/9/2018	15:31	87.9	DPE-1	17.8	8.75	4.21	
PZ-1	12.96	1/18/2018	13:40	99.0	DPE-1	17.8	8.54	4.42	
PZ-1	12.96	1/24/2018	14:48	65.0	DPE-1	17.8	8.13	4.83	
PZ-1	12.96	2/1/2018	9:36	117.0	DPE-1	17.8	9.09	3.87	
PZ-1	12.96	2/8/2018	9:27	90.1	DPE-1	17.8	9.14	3.82	
PZ-1	12.96	2/13/2018	14:52	#N/A	DPE-1	17.8	9.31	3.65	SVE off
PZ-1	12.96	2/20/2018	14:41	92.7	DPE-1	17.8	9.50	3.46	
PZ-1	12.96	2/28/2018	15:47	106.2	DPE-1	17.8	9.59	3.37	
PZ-1	12.96	3/8/2018	15:05	122.2	DPE-1	17.8	9.31	3.65	
PZ-1	12.96	3/14/2018	15:01	157.2	DPE-1	17.8	9.11	3.85	
PZ-1	12.96	5/29/2018	15:14	2.9	DPE-1	17.8	9.19	3.77	
PZ-1	12.96	6/18/2018	14:59	0.0	DPE-1	17.8	9.61	3.35	SVE off
PZ-1	12.96	7/19/2018	16:43	93.1	DPE-1	17.8	8.90	4.06	
PZ-1	12.96	8/7/2018	11:22	0.0	DPE-1	17.8	6.66	6.3	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-1	12.96	10/26/2018	15:18	6.2	DPE-1	17.8	8.98	3.98	
PZ-1	12.96	11/13/2018	15:53	24.1	DPE-1	17.8	9.39	3.57	
PZ-1	12.96	1/29/2019	13:47	0.0	DPE-1	17.8	9.07	3.89	
PZ-1	12.96	2/21/2019	11:40	0.0	DPE-1	17.8	8.90	4.06	
PZ-1	12.96	3/14/2019	13:36	0.0	DPE-1	17.8	9.11	3.85	
PZ-1	12.96	4/11/2019	13:13	0.0	DPE-1	17.8	8.42	4.54	
PZ-1	12.96	5/9/2019	14:45	0.0	DPE-1	17.8	8.99	3.97	
PZ-1	12.96	6/6/2019	13:56	0.0	DPE-1	17.8	9.12	3.84	
PZ-1	12.96	8/1/2019	10:58	0.0	DPE-1	17.8	7.12	5.84	DPE system expansion baseline event before system startup - System off
PZ-1	12.96	8/15/2019	9:45	0.0	DPE-1	17.8	7.20	5.76	
PZ-1	12.96	8/21/2019	11:24	0.0	DPE-1	17.8	8.27	4.69	
PZ-1	12.96	9/24/2019	9:59	n.m.	DPE-1	17.8	9.35	3.61	
PZ-1	12.96	2/24/2020	11:56	n.m.	DPE-1	17.8	9.22	3.74	
PZ-1	12.96	2/28/2020	n.m.	n.m.	DPE-1	17.8	9.52	3.44	
PZ-1	12.96	3/18/2020	n.m.	n.m.	DPE-1	17.8	9.09	3.87	
PZ-1	12.96	4/17/2020	n.m.	n.m.	DPE-1	17.8	9.42	3.54	
PZ-1	12.96	5/19/2020	n.m.	n.m.	DPE-1	17.8	8.74	4.22	
PZ-1	12.96	8/19/2020	n.m.	n.m.	DPE-1	17.8	9.42	3.54	
PZ-1	12.96	9/2/2020	n.m.	n.m.	DPE-1	17.8	9.43	3.53	
PZ-2	13.18	11/28/2017	n.m.	n.m.	DPE-1	8	6.24	6.94	DPE system baseline event before system startup - System off
PZ-2	13.18	11/30/2017	n.m.	n.m.	DPE-1	8	7.84	5.34	DPE system testing
PZ-2	13.18	12/1/2017	n.m.	n.m.	DPE-1	8	9.36	3.82	DPE system startup (groundwater extraction only)

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-2	13.18	12/5/2017	n.m.	n.m.	DPE-1	8	10.25	2.93	
PZ-2	13.18	12/13/2017	n.m.	n.m.	DPE-1	8	10.19	2.99	
PZ-2	13.18	12/13/2017	n.m.	n.m.	DPE-1	8	9.85	3.33	
PZ-2	13.18	12/14/2017	n.m.	n.m.	DPE-1	8	10.25	2.93	
PZ-2	13.18	12/20/2017	n.m.	n.m.	DPE-1	8	9.18	4.00	
PZ-2	13.18	12/27/2017	n.m.	n.m.	DPE-1	8	10.21	2.97	
PZ-2	13.18	1/5/2018	n.m.	n.m.	DPE-1	8	9.52	3.66	
PZ-2	13.18	1/9/2018	n.m.	n.m.	DPE-1	8	9.47	3.71	
PZ-2	13.18	1/18/2018	n.m.	n.m.	DPE-1	8	9.19	3.99	
PZ-2	13.18	1/24/2018	n.m.	n.m.	DPE-1	8	8.82	4.36	
PZ-2	13.18	2/1/2018	n.m.	n.m.	DPE-1	8	9.81	3.37	
PZ-2	13.18	2/8/2018	n.m.	n.m.	DPE-1	8	9.50	3.68	
PZ-2	13.18	2/13/2018	n.m.	n.m.	DPE-1	8	10.22	2.96	SVE off
PZ-2	13.18	2/20/2018	n.m.	n.m.	DPE-1	8	9.51	3.67	
PZ-2	13.18	2/28/2018	n.m.	n.m.	DPE-1	8	9.88	3.30	
PZ-2	13.18	3/8/2018	n.m.	n.m.	DPE-1	8	9.40	3.78	
PZ-2	13.18	3/14/2018	n.m.	n.m.	DPE-1	8	9.12	4.06	
PZ-2	13.18	5/29/2018	n.m.	n.m.	DPE-1	8	9.99	3.19	
PZ-2	13.18	6/18/2018	n.m.	n.m.	DPE-1	8	10.40	2.78	SVE off
PZ-2	13.18	7/19/2018	n.m.	n.m.	DPE-1	8	9.39	3.79	
PZ-2	13.18	8/7/2018	n.m.	n.m.	DPE-1	8	7.91	5.27	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-2	13.18	10/26/2018	n.m.	n.m.	DPE-1	8	9.31	3.87	
PZ-2	13.18	11/13/2018	n.m.	n.m.	DPE-1	8	9.73	3.45	
PZ-2	13.18	1/29/2019	n.m.	n.m.	DPE-1	8	9.25	3.93	
PZ-2	13.18	2/21/2019	n.m.	n.m.	DPE-1	8	9.20	3.98	
PZ-2	13.18	3/14/2019	n.m.	n.m.	DPE-1	8	9.18	4.00	
PZ-2	13.18	4/11/2019	n.m.	n.m.	DPE-1	8	9.95	3.23	
PZ-2	13.18	5/9/2019	n.m.	n.m.	DPE-1	8	9.24	3.94	
PZ-2	13.18	6/6/2019	n.m.	n.m.	DPE-1	8	9.45	3.73	
PZ-2	13.18	8/1/2019	n.m.	n.m.	DPE-1	8	7.37	5.81	DPE system expansion baseline event before system startup - System off
PZ-2	13.18	8/15/2019	n.m.	n.m.	DPE-1	8	7.44	5.74	
PZ-2	13.18	8/21/2019	n.m.	n.m.	DPE-1	8	8.50	4.68	
PZ-2	13.18	9/24/2019	n.m.	n.m.	DPE-1	8	9.67	3.51	
PZ-2	13.18	2/24/2020	n.m.	n.m.	DPE-1	8	9.38	3.80	
PZ-2	13.18	2/28/2020	n.m.	n.m.	DPE-1	8	9.65	3.53	
PZ-2	13.18	3/18/2020	n.m.	n.m.	DPE-1	8	9.16	4.02	
PZ-2	13.18	4/17/2020	n.m.	n.m.	DPE-1	8	9.63	3.55	
PZ-2	13.18	5/19/2020	n.m.	n.m.	DPE-1	8	8.72	4.46	
PZ-2	13.18	8/19/2020	n.m.	n.m.	DPE-1	8	9.75	3.43	
PZ-2	13.18	9/2/2020	n.m.	n.m.	DPE-1	8	9.74	3.44	
PZ-4	14.16	11/28/2017	n.m.	n.m.	DPE-5 & DPE-6	15	7.48	6.68	DPE system baseline event before system startup - System off
PZ-4	14.16	11/30/2017	n.m.	n.m.	DPE-5 & DPE-6	15	8.57	5.59	DPE system testing
PZ-4	14.16	12/1/2017	n.m.	n.m.	DPE-5 & DPE-6	15	9.86	4.30	DPE system startup (groundwater extraction only)
PZ-4	14.16	12/5/2017	n.m.	n.m.	DPE-5 & DPE-6	15	10.39	3.77	
PZ-4	14.16	12/13/2017	n.m.	n.m.	DPE-5 & DPE-6	15	11.10	3.06	
PZ-4	14.16	12/13/2017	n.m.	n.m.	DPE-5 & DPE-6	15	11.04	3.12	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-4	14.16	12/14/2017	n.m.	n.m.	DPE-5 & DPE-6	15	11.01	3.15	
PZ-4	14.16	12/20/2017	n.m.	n.m.	DPE-5 & DPE-6	15	9.51	4.65	
PZ-4	14.16	12/27/2017	n.m.	n.m.	DPE-5 & DPE-6	15	#N/A	#N/A	Not Gauged
PZ-4	14.16	1/5/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.29	3.87	
PZ-4	14.16	1/9/2018	n.m.	n.m.	DPE-5 & DPE-6	15	9.85	4.31	
PZ-4	14.16	1/18/2018	n.m.	n.m.	DPE-5 & DPE-6	15	9.79	4.37	
PZ-4	14.16	1/24/2018	n.m.	n.m.	DPE-5 & DPE-6	15	8.82	5.34	
PZ-4	14.16	2/1/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.51	3.65	
PZ-4	14.16	2/8/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.62	3.54	
PZ-4	14.16	2/13/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.33	3.83	SVE off
PZ-4	14.16	2/20/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.59	3.57	
PZ-4	14.16	2/28/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.94	3.22	
PZ-4	14.16	3/8/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.77	3.39	
PZ-4	14.16	3/14/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.39	3.77	
PZ-4	14.16	5/29/2018	n.m.	n.m.	DPE-5 & DPE-6	15	9.37	4.79	
PZ-4	14.16	6/18/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.50	3.66	SVE off
PZ-4	14.16	7/19/2018	n.m.	n.m.	DPE-5 & DPE-6	15	9.15	5.01	
PZ-4	14.16	8/7/2018	n.m.	n.m.	DPE-5 & DPE-6	15	8.88	5.28	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-4	14.16	10/26/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.21	3.95	
PZ-4	14.16	11/13/2018	n.m.	n.m.	DPE-5 & DPE-6	15	10.68	3.48	
PZ-4	14.16	1/29/2019	n.m.	n.m.	DPE-5 & DPE-6	15	9.83	4.33	
PZ-4	14.16	2/21/2019	n.m.	n.m.	DPE-5 & DPE-6	15	9.96	4.20	
PZ-4	14.16	3/14/2019	n.m.	n.m.	DPE-5 & DPE-6	15	9.88	4.28	
PZ-4	14.16	4/11/2019	n.m.	n.m.	DPE-5 & DPE-6	15	8.99	5.17	
PZ-4	14.16	5/9/2019	n.m.	n.m.	DPE-5 & DPE-6	15	10.24	3.92	
PZ-4	14.16	6/6/2019	n.m.	n.m.	DPE-5 & DPE-6	15	10.26	3.9	
PZ-4	14.16	8/1/2019	n.m.	n.m.	DPE-5 & DPE-6	15	8.37	5.79	DPE system expansion baseline event before system startup - System off
PZ-4	14.16	8/15/2019	n.m.	n.m.	DPE-5 & DPE-6	15	8.47	5.69	
PZ-4	14.16	8/21/2019	n.m.	n.m.	DPE-5 & DPE-6	15	9.09	5.07	
PZ-4	14.16	9/24/2019	n.m.	n.m.	DPE-5 & DPE-6	15	10.49	3.67	
PZ-4	14.16	2/24/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.55	3.61	
PZ-4	14.16	2/28/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.74	3.42	
PZ-4	14.16	3/18/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.45	3.71	
PZ-4	14.16	4/17/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.79	3.37	
PZ-4	14.16	5/19/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.33	3.83	
PZ-4	14.16	8/19/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.74	3.42	
PZ-4	14.16	9/2/2020	n.m.	n.m.	DPE-5 & DPE-6	15	10.76	3.4	
PZ-5	12.84	11/28/2017	n.m.	n.m.	DPE-7	15	5.51	7.33	DPE system baseline event before system startup - System off
PZ-5	12.84	11/30/2017	n.m.	n.m.	DPE-7	15	6.23	6.61	DPE system testing
PZ-5	12.84	12/1/2017	n.m.	n.m.	DPE-7	15	6.38	6.46	DPE system startup (groundwater extraction only)
PZ-5	12.84	12/5/2017	n.m.	n.m.	DPE-7	15	8.75	4.09	
PZ-5	12.84	12/13/2017	n.m.	n.m.	DPE-7	15	8.85	3.99	
PZ-5	12.84	12/13/2017	n.m.	n.m.	DPE-7	15	8.86	3.98	
PZ-5	12.84	12/14/2017	n.m.	n.m.	DPE-7	15	9.10	3.74	
PZ-5	12.84	12/20/2017	n.m.	n.m.	DPE-7	15	8.71	4.13	
PZ-5	12.84	12/27/2017	n.m.	n.m.	DPE-7	15	10.35	2.49	

Table 4-6
 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-5	12.84	1/5/2018	n.m.	n.m.	DPE-7	15	8.72	4.12	
PZ-5	12.84	1/9/2018	n.m.	n.m.	DPE-7	15	8.63	4.21	
PZ-5	12.84	1/18/2018	n.m.	n.m.	DPE-7	15	7.16	5.68	
PZ-5	12.84	1/24/2018	n.m.	n.m.	DPE-7	15	8.75	4.09	
PZ-5	12.84	2/1/2018	n.m.	n.m.	DPE-7	15	8.69	4.15	
PZ-5	12.84	2/8/2018	n.m.	n.m.	DPE-7	15	7.15	5.69	
PZ-5	12.84	2/13/2018	n.m.	n.m.	DPE-7	15	7.35	5.49	SVE off
PZ-5	12.84	2/20/2018	n.m.	n.m.	DPE-7	15	9.45	3.39	
PZ-5	12.84	2/28/2018	n.m.	n.m.	DPE-7	15	8.62	4.22	
PZ-5	12.84	3/8/2018	n.m.	n.m.	DPE-7	15	7.90	4.94	
PZ-5	12.84	3/14/2018	n.m.	n.m.	DPE-7	15	7.45	5.39	DPE-7 off
PZ-5	12.84	5/29/2018	n.m.	n.m.	DPE-7	15	8.84	4	
PZ-5	12.84	6/18/2018	n.m.	n.m.	DPE-7	15	10.05	2.79	SVE off
PZ-5	12.84	7/19/2018	n.m.	n.m.	DPE-7	15	8.21	4.63	
PZ-5	12.84	8/7/2018	n.m.	n.m.	DPE-7	15	8.35	4.49	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-5	12.84	10/26/2018	n.m.	n.m.	DPE-7	15	6.49	6.35	
PZ-5	12.84	11/13/2018	n.m.	n.m.	DPE-7	15	8.21	4.63	
PZ-5	12.84	1/29/2019	n.m.	n.m.	DPE-7	15	6.05	6.79	
PZ-5	12.84	2/21/2019	n.m.	n.m.	DPE-7	15	5.61	7.23	
PZ-5	12.84	3/14/2019	n.m.	n.m.	DPE-7	15	6.18	6.66	
PZ-5	12.84	4/11/2019	n.m.	n.m.	DPE-7	15	6.08	6.76	
PZ-5	12.84	5/9/2019	n.m.	n.m.	DPE-7	15	7.52	5.32	
PZ-5	12.84	6/6/2019	n.m.	n.m.	DPE-7	15	8.34	4.5	
PZ-5	12.84	8/1/2019	n.m.	n.m.	DPE-7	15	7.91	4.93	DPE system expansion baseline event before system startup - System off
PZ-5	12.84	8/15/2019	n.m.	n.m.	DPE-7	15	7.89	4.95	
PZ-5	12.84	8/21/2019	n.m.	n.m.	DPE-7	15	7.89	4.95	
PZ-5	12.84	9/24/2019	n.m.	n.m.	DPE-7	15	9.47	3.37	
PZ-5	12.84	2/24/2020	n.m.	n.m.	DPE-7	15	8.04	4.80	
PZ-5	12.84	2/28/2020	n.m.	n.m.	DPE-7	15	8.95	3.89	
PZ-5	12.84	3/18/2020	n.m.	n.m.	DPE-7	15	7.23	5.61	
PZ-5	12.84	4/17/2020	n.m.	n.m.	DPE-7	15	8.59	4.25	
PZ-5	12.84	5/19/2020	n.m.	n.m.	DPE-7	15	7.78	5.06	
PZ-5	12.84	8/19/2020	n.m.	n.m.	DPE-7	15	9.00	3.84	
PZ-5	12.84	9/2/2020	n.m.	n.m.	DPE-7	15	8.96	3.88	
PZ-6	12.96	11/28/2017	n.m.	n.m.	DPE-8	15	5.35	7.61	DPE system baseline event before system startup - System off
PZ-6	12.96	11/30/2017	n.m.	n.m.	DPE-8	15	6.19	6.77	DPE system testing
PZ-6	12.96	12/1/2017	n.m.	n.m.	DPE-8	15	6.45	6.51	DPE system startup (groundwater extraction only)
PZ-6	12.96	12/5/2017	n.m.	n.m.	DPE-8	15	8.73	4.23	
PZ-6	12.96	12/13/2017	n.m.	n.m.	DPE-8	15	9.06	3.90	
PZ-6	12.96	12/13/2017	n.m.	n.m.	DPE-8	15	9.04	3.92	
PZ-6	12.96	12/14/2017	n.m.	n.m.	DPE-8	15	9.30	3.66	
PZ-6	12.96	12/20/2017	n.m.	n.m.	DPE-8	15	8.59	4.37	
PZ-6	12.96	12/27/2017	n.m.	n.m.	DPE-8	15	10.15	2.81	
PZ-6	12.96	1/5/2018	n.m.	n.m.	DPE-8	15	8.52	4.44	
PZ-6	12.96	1/9/2018	n.m.	n.m.	DPE-8	15	8.12	4.84	
PZ-6	12.96	1/18/2018	n.m.	n.m.	DPE-8	15	6.50	6.46	

Table 4-6
 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-6	12.96	1/24/2018	n.m.	n.m.	DPE-8	15	7.62	5.34	
PZ-6	12.96	2/1/2018	n.m.	n.m.	DPE-8	15	8.73	4.23	
PZ-6	12.96	2/8/2018	n.m.	n.m.	DPE-8	15	6.47	6.49	DPE-8 off
PZ-6	12.96	2/13/2018	n.m.	n.m.	DPE-8	15	6.56	6.40	SVE off DPE-8 off
PZ-6	12.96	2/20/2018	n.m.	n.m.	DPE-8	15	7.76	5.20	DPE-8 off
PZ-6	12.96	2/28/2018	n.m.	n.m.	DPE-8	15	8.70	4.26	
PZ-6	12.96	3/8/2018	n.m.	n.m.	DPE-8	15	6.76	6.2	DPE-8 off
PZ-6	12.96	3/14/2018	n.m.	n.m.	DPE-8	15	6.88	6.08	DPE-8 off
PZ-6	12.96	5/29/2018	n.m.	n.m.	DPE-8	15	7.99	4.97	
PZ-6	12.96	6/18/2018	n.m.	n.m.	DPE-8	15	7.91	5.05	SVE off
PZ-6	12.96	7/19/2018	n.m.	n.m.	DPE-8	15	7.76	5.2	
PZ-6	12.96	8/7/2018	n.m.	n.m.	DPE-8	15	8.19	4.77	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-6	12.96	10/26/2018	n.m.	n.m.	DPE-8	15	6.50	6.46	
PZ-6	12.96	11/13/2018	n.m.	n.m.	DPE-8	15	8.08	4.88	
PZ-6	12.96	1/29/2019	n.m.	n.m.	DPE-8	15	5.72	7.24	
PZ-6	12.96	2/21/2019	n.m.	n.m.	DPE-8	15	6.51	6.45	
PZ-6	12.96	3/14/2019	n.m.	n.m.	DPE-8	15	6.27	6.69	
PZ-6	12.96	4/11/2019	n.m.	n.m.	DPE-8	15	6.15	6.81	
PZ-6	12.96	5/9/2019	n.m.	n.m.	DPE-8	15	7.01	5.95	
PZ-6	12.96	6/6/2019	n.m.	n.m.	DPE-8	15	7.68	5.28	
PZ-6	12.96	8/1/2019	n.m.	n.m.	DPE-8	15	7.44	5.52	DPE system expansion baseline event before system startup - System off
PZ-6	12.96	8/15/2019	n.m.	n.m.	DPE-8	15	7.46	5.5	
PZ-6	12.96	8/21/2019	n.m.	n.m.	DPE-8	15	7.32	5.64	
PZ-6	12.96	9/24/2019	n.m.	n.m.	DPE-8	15	8.39	4.57	
PZ-6	12.96	2/24/2020	n.m.	n.m.	DPE-8	15	7.13	5.83	
PZ-6	12.96	2/28/2020	n.m.	n.m.	DPE-8	15	7.68	5.28	
PZ-6	12.96	3/18/2020	n.m.	n.m.	DPE-8	15	6.70	6.26	
PZ-6	12.96	4/17/2020	n.m.	n.m.	DPE-8	15	7.61	5.35	
PZ-6	12.96	5/19/2020	n.m.	n.m.	DPE-8	15	7.11	5.85	
PZ-6	12.96	8/19/2020	n.m.	n.m.	DPE-8	15	8.21	4.75	
PZ-6	12.96	9/2/2020	n.m.	n.m.	DPE-8	15	8.15	4.81	
PZ-7	13.05	11/28/2017	n.m.	n.m.	DPE-10	15	5.17	7.88	DPE system baseline event before system startup - System off
PZ-7	13.05	11/30/2017	n.m.	n.m.	DPE-10	15	5.79	7.26	DPE system testing
PZ-7	13.05	12/1/2017	n.m.	n.m.	DPE-10	15	6.07	6.98	DPE system startup (groundwater extraction only)
PZ-7	13.05	12/5/2017	n.m.	n.m.	DPE-10	15	7.57	5.48	
PZ-7	13.05	12/13/2017	n.m.	n.m.	DPE-10	15	8.31	4.74	
PZ-7	13.05	12/13/2017	n.m.	n.m.	DPE-10	15	8.37	4.68	
PZ-7	13.05	12/14/2017	n.m.	n.m.	DPE-10	15	8.75	4.30	
PZ-7	13.05	12/20/2017	n.m.	n.m.	DPE-10	15	8.10	4.95	
PZ-7	13.05	12/27/2017	n.m.	n.m.	DPE-10	15	8.89	4.16	
PZ-7	13.05	1/5/2018	n.m.	n.m.	DPE-10	15	8.03	5.02	
PZ-7	13.05	1/9/2018	n.m.	n.m.	DPE-10	15	7.57	5.48	
PZ-7	13.05	1/18/2018	n.m.	n.m.	DPE-10	15	6.60	6.45	
PZ-7	13.05	1/24/2018	n.m.	n.m.	DPE-10	15	6.73	6.32	
PZ-7	13.05	2/1/2018	n.m.	n.m.	DPE-10	15	8.21	4.84	
PZ-7	13.05	2/8/2018	n.m.	n.m.	DPE-10	15	6.32	6.73	DPE-10 off

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-7	13.05	2/13/2018	n.m.	n.m.	DPE-10	15	6.59	6.46	SVE off DPE-10 off
PZ-7	13.05	2/20/2018	n.m.	n.m.	DPE-10	15	6.58	6.47	DPE-10 off
PZ-7	13.05	2/28/2018	n.m.	n.m.	DPE-10	15	7.62	5.43	DPE-10 off
PZ-7	13.05	3/8/2018	n.m.	n.m.	DPE-10	15	6.51	6.54	DPE-10 off
PZ-7	13.05	3/14/2018	n.m.	n.m.	DPE-10	15	6.32	6.73	DPE-10 off
PZ-7	13.05	5/29/2018	n.m.	n.m.	DPE-10	15	7.38	5.67	
PZ-7	13.05	6/18/2018	n.m.	n.m.	DPE-10	15	7.20	5.85	SVE off
PZ-7	13.05	7/19/2018	n.m.	n.m.	DPE-10	15	6.95	6.1	
PZ-7	13.05	8/7/2018	n.m.	n.m.	DPE-10	15	7.55	5.5	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-7	13.05	10/26/2018	n.m.	n.m.	DPE-10	15	7.20	5.85	
PZ-7	13.05	11/13/2018	n.m.	n.m.	DPE-10	15	7.21	5.84	
PZ-7	13.05	1/29/2019	n.m.	n.m.	DPE-10	15	5.81	7.24	
PZ-7	13.05	2/21/2019	n.m.	n.m.	DPE-10	15	5.58	7.47	
PZ-7	13.05	3/14/2019	n.m.	n.m.	DPE-10	15	6.10	6.95	
PZ-7	13.05	4/11/2019	n.m.	n.m.	DPE-10	15	6.05	7.00	
PZ-7	13.05	5/9/2019	n.m.	n.m.	DPE-10	15	6.65	6.40	
PZ-7	13.05	6/6/2019	n.m.	n.m.	DPE-10	15	6.72	6.33	
PZ-7	13.05	8/1/2019	n.m.	n.m.	DPE-10	15	6.45	6.6	DPE system expansion baseline event before system startup - System off
PZ-7	13.05	8/15/2019	n.m.	n.m.	DPE-10	15	6.53	6.52	
PZ-7	13.05	8/21/2019	n.m.	n.m.	DPE-10	15	5.92	7.13	
PZ-7	13.05	9/24/2019	n.m.	n.m.	DPE-10	15	7.13	5.92	
PZ-7	13.05	2/24/2020	n.m.	n.m.	DPE-10	15	6.43	6.62	
PZ-7	13.05	2/28/2020	n.m.	n.m.	DPE-10	15	6.74	6.31	
PZ-7	13.05	3/18/2020	n.m.	n.m.	DPE-10	15	6.64	6.41	
PZ-7	13.05	4/17/2020	n.m.	n.m.	DPE-10	15	6.92	6.13	
PZ-7	13.05	5/19/2020	n.m.	n.m.	DPE-10	15	6.78	6.27	
PZ-7	13.05	8/19/2020	n.m.	n.m.	DPE-10	15	7.25	5.8	
PZ-7	13.05	9/2/2020	n.m.	n.m.	DPE-10	15	7.28	5.77	
PZ-8	12.91	11/28/2017	n.m.	n.m.	DPE-11	12	5.59	7.32	DPE system baseline event before system startup - System off
PZ-8	12.91	11/30/2017	n.m.	n.m.	DPE-11	12	5.67	7.24	DPE system testing
PZ-8	12.91	12/1/2017	n.m.	n.m.	DPE-11	12	6.71	6.20	DPE system startup (groundwater extraction only) - DPE-11 off
PZ-8	12.91	12/5/2017	n.m.	n.m.	DPE-11	12	6.35	6.56	DPE-11 off
PZ-8	12.91	12/13/2017	n.m.	n.m.	DPE-11	12	7.48	5.43	DPE-11 repaired
PZ-8	12.91	12/13/2017	n.m.	n.m.	DPE-11	12	7.45	5.46	
PZ-8	12.91	12/14/2017	n.m.	n.m.	DPE-11	12	7.60	5.31	
PZ-8	12.91	12/20/2017	n.m.	n.m.	DPE-11	12	7.21	5.70	
PZ-8	12.91	12/27/2017	n.m.	n.m.	DPE-11	12	7.69	5.22	
PZ-8	12.91	1/5/2018	n.m.	n.m.	DPE-11	12	7.56	5.35	
PZ-8	12.91	1/9/2018	n.m.	n.m.	DPE-11	12	7.41	5.50	
PZ-8	12.91	1/18/2018	n.m.	n.m.	DPE-11	12	7.19	5.72	
PZ-8	12.91	1/24/2018	n.m.	n.m.	DPE-11	12	7.62	5.29	
PZ-8	12.91	2/1/2018	n.m.	n.m.	DPE-11	12	7.85	5.06	
PZ-8	12.91	2/8/2018	n.m.	n.m.	DPE-11	12	6.16	6.75	DPE-11 off
PZ-8	12.91	2/13/2018	n.m.	n.m.	DPE-11	12	7.71	5.20	SVE off
PZ-8	12.91	2/20/2018	n.m.	n.m.	DPE-11	12	7.70	5.21	
PZ-8	12.91	2/28/2018	n.m.	n.m.	DPE-11	12	6.45	6.46	DPE-11 off

Table 4-6
 Observation Well Data
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 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-8	12.91	3/8/2018	n.m.	n.m.	DPE-11	12	6.03	6.88	DPE-11 off
PZ-8	12.91	3/14/2018	n.m.	n.m.	DPE-11	12	6.00	6.91	DPE-11 off
PZ-8	12.91	5/29/2018	n.m.	n.m.	DPE-11	12	9.42	3.49	
PZ-8	12.91	6/18/2018	n.m.	n.m.	DPE-11	12	8.49	4.42	
PZ-8	12.91	7/19/2018	n.m.	n.m.	DPE-11	12	9.31	3.6	
PZ-8	12.91	8/7/2018	n.m.	n.m.	DPE-11	12	7.45	5.46	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-8	12.91	10/26/2018	n.m.	n.m.	DPE-11	12	8.58	4.33	
PZ-8	12.91	11/13/2018	n.m.	n.m.	DPE-11	12	8.20	4.71	
PZ-8	12.91	1/29/2019	n.m.	n.m.	DPE-11	12	7.95	4.96	
PZ-8	12.91	2/21/2019	n.m.	n.m.	DPE-11	12	8.07	4.84	
PZ-8	12.91	3/14/2019	n.m.	n.m.	DPE-11	12	8.15	4.76	
PZ-8	12.91	4/11/2019	n.m.	n.m.	DPE-11	12	8.05	4.86	
PZ-8	12.91	5/9/2019	n.m.	n.m.	DPE-11	12	8.59	4.32	
PZ-8	12.91	6/6/2019	n.m.	n.m.	DPE-11	12	8.40	4.51	
PZ-8	12.91	8/1/2019	n.m.	n.m.	DPE-11	12	6.00	6.91	DPE system expansion baseline event before system startup - System off
PZ-8	12.91	8/15/2019	n.m.	n.m.	DPE-11	12	6.08	6.83	
PZ-8	12.91	8/21/2019	n.m.	n.m.	DPE-11	12	6.31	6.60	
PZ-8	12.91	9/24/2019	n.m.	n.m.	DPE-11	12	8.60	4.31	
PZ-8	12.91	2/24/2020	n.m.	n.m.	DPE-11	12	8.52	4.39	
PZ-8	12.91	2/28/2020	n.m.	n.m.	DPE-11	12	7.71	5.20	
PZ-8	12.91	3/18/2020	n.m.	n.m.	DPE-11	12	8.44	4.47	
PZ-8	12.91	4/17/2020	n.m.	n.m.	DPE-11	12	8.41	4.5	
PZ-8	12.91	5/19/2020	n.m.	n.m.	DPE-11	12	8.26	4.65	
PZ-8	12.91	8/19/2020	n.m.	n.m.	DPE-11	12	8.31	4.6	
PZ-8	12.91	9/2/2020	n.m.	n.m.	DPE-11	12	8.36	4.55	
PZ-9	12.85	11/28/2017	n.m.	n.m.	DPE-12	16	5.30	7.55	DPE system baseline event before system startup - System off
PZ-9	12.85	11/30/2017	n.m.	n.m.	DPE-12	16	7.87	4.98	DPE system testing
PZ-9	12.85	12/1/2017	n.m.	n.m.	DPE-12	16	9.45	3.40	DPE system startup (groundwater extraction only)
PZ-9	12.85	12/5/2017	n.m.	n.m.	DPE-12	16	8.78	4.07	
PZ-9	12.85	12/13/2017	n.m.	n.m.	DPE-12	16	7.55	5.30	DPE 12 off
PZ-9	12.85	12/13/2017	n.m.	n.m.	DPE-12	16	7.52	5.33	DPE 12 off
PZ-9	12.85	12/14/2017	n.m.	n.m.	DPE-12	16	7.57	5.28	DPE 12 off
PZ-9	12.85	12/20/2017	n.m.	n.m.	DPE-12	16	6.93	5.92	DPE 12 off
PZ-9	12.85	12/27/2017	n.m.	n.m.	DPE-12	16	7.35	5.50	DPE 12 off
PZ-9	12.85	1/5/2018	n.m.	n.m.	DPE-12	16	7.25	5.60	DPE 12 off
PZ-9	12.85	1/9/2018	n.m.	n.m.	DPE-12	16	6.70	6.15	DPE 12 off
PZ-9	12.85	1/18/2018	n.m.	n.m.	DPE-12	16	6.67	6.18	DPE 12 off
PZ-9	12.85	1/24/2018	n.m.	n.m.	DPE-12	16	6.47	6.38	DPE 12 off
PZ-9	12.85	2/1/2018	n.m.	n.m.	DPE-12	16	6.90	5.95	DPE 12 off
PZ-9	12.85	2/8/2018	n.m.	n.m.	DPE-12	16	5.85	7.00	DPE 12 off
PZ-9	12.85	2/13/2018	n.m.	n.m.	DPE-12	16	6.95	5.90	DPE 12 off
PZ-9	12.85	2/20/2018	n.m.	n.m.	DPE-12	16	7.19	5.66	DPE 12 off
PZ-9	12.85	2/28/2018	n.m.	n.m.	DPE-12	16	6.09	6.76	DPE 12 off
PZ-9	12.85	3/8/2018	n.m.	n.m.	DPE-12	16	5.78	7.07	DPE 12 off
PZ-9	12.85	3/14/2018	n.m.	n.m.	DPE-12	16	5.79	7.06	DPE 12 off
PZ-9	12.85	5/29/2018	n.m.	n.m.	DPE-12-R	16	8.40	4.45	

Table 4-6
 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-9	12.85	6/18/2018	n.m.	n.m.	DPE-12-R	16	8.25	4.6	
PZ-9	12.85	7/19/2018	n.m.	n.m.	DPE-12-R	16	7.96	4.89	
PZ-9	12.85	8/7/2018	n.m.	n.m.	DPE-12-R	16	8.54	4.31	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-9	12.85	10/26/2018	n.m.	n.m.	DPE-12-R	16	6.58	6.27	
PZ-9	12.85	11/13/2018	n.m.	n.m.	DPE-12-R	16	7.42	5.43	
PZ-9	12.85	1/29/2019	n.m.	n.m.	DPE-12-R	16	6.76	6.09	
PZ-9	12.85	2/21/2019	n.m.	n.m.	DPE-12-R	16	6.26	6.59	
PZ-9	12.85	3/14/2019	n.m.	n.m.	DPE-12-R	16	6.32	6.53	
PZ-9	12.85	4/11/2019	n.m.	n.m.	DPE-12-R	16	6.21	6.64	
PZ-9	12.85	5/9/2019	n.m.	n.m.	DPE-12-R	16	6.95	5.90	
PZ-9	12.85	6/6/2019	n.m.	n.m.	DPE-12-R	16	6.23	6.62	
PZ-9	12.85	8/1/2019	n.m.	n.m.	DPE-12-R	16	5.84	7.01	DPE system expansion baseline event before system startup - System off
PZ-9	12.85	8/15/2019	n.m.	n.m.	DPE-12-R	16	5.95	6.9	
PZ-9	12.85	8/21/2019	n.m.	n.m.	DPE-12-R	16	6.10	6.75	
PZ-9	12.85	9/24/2019	n.m.	n.m.	DPE-12-R	16	7.83	5.02	
PZ-9	12.85	2/24/2020	n.m.	n.m.	DPE-12-R	16	7.08	5.77	
PZ-9	12.85	2/28/2020	n.m.	n.m.	DPE-12-R	16	7.13	5.72	
PZ-9	12.85	3/18/2020	n.m.	n.m.	DPE-12-R	16	6.81	6.04	
PZ-9	12.85	4/17/2020	n.m.	n.m.	DPE-12-R	16	6.92	5.93	
PZ-9	12.85	5/19/2020	n.m.	n.m.	DPE-12-R	16	6.81	6.04	
PZ-9	12.85	8/19/2020	n.m.	n.m.	DPE-12-R	16	6.95	5.9	
PZ-9	12.85	9/2/2020	n.m.	n.m.	DPE-12-R	16	7.04	5.81	
PZ-10	12.62	11/28/2017	n.m.	n.m.	DPE-13	17	5.24	7.38	DPE system baseline event before system startup - System off
PZ-10	12.62	11/30/2017	n.m.	n.m.	DPE-13	17	6.36	6.26	DPE system testing
PZ-10	12.62	12/1/2017	n.m.	n.m.	DPE-13	17	6.92	5.70	DPE system startup (groundwater extraction only)
PZ-10	12.62	12/5/2017	n.m.	n.m.	DPE-13	17	6.69	5.93	
PZ-10	12.62	12/13/2017	n.m.	n.m.	DPE-13	17	6.92	5.70	
PZ-10	12.62	12/13/2017	n.m.	n.m.	DPE-13	17	6.93	5.69	
PZ-10	12.62	12/14/2017	n.m.	n.m.	DPE-13	17	6.96	5.66	
PZ-10	12.62	12/20/2017	n.m.	n.m.	DPE-13	17	6.25	6.37	
PZ-10	12.62	12/27/2017	n.m.	n.m.	DPE-13	17	6.90	5.72	
PZ-10	12.62	1/5/2018	n.m.	n.m.	DPE-13	17	6.67	5.95	
PZ-10	12.62	1/9/2018	n.m.	n.m.	DPE-13	17	4.80	7.82	Depth to water inconsistent with historical data
PZ-10	12.62	1/18/2018	n.m.	n.m.	DPE-13	17	6.15	6.47	
PZ-10	12.62	1/24/2018	n.m.	n.m.	DPE-13	17	6.09	6.53	
PZ-10	12.62	2/1/2018	n.m.	n.m.	DPE-13	17	6.43	6.19	
PZ-10	12.62	2/8/2018	n.m.	n.m.	DPE-13	17	5.83	6.79	DPE-13 off
PZ-10	12.62	2/13/2018	n.m.	n.m.	DPE-13	17	6.49	6.13	SVE off
PZ-10	12.62	2/20/2018	n.m.	n.m.	DPE-13	17	6.65	5.97	
PZ-10	12.62	2/28/2018	n.m.	n.m.	DPE-13	17	6.11	6.51	DPE-13 off
PZ-10	12.62	3/8/2018	n.m.	n.m.	DPE-13	17	5.78	6.84	DPE-13 off
PZ-10	12.62	3/14/2018	n.m.	n.m.	DPE-13	17	5.81	6.81	DPE-13 off
PZ-10	12.62	5/29/2018	n.m.	n.m.	DPE-13	17	7.23	5.39	
PZ-10	12.62	6/18/2018	n.m.	n.m.	DPE-13	17	7.15	5.47	
PZ-10	12.62	7/19/2018	n.m.	n.m.	DPE-13	17	7.94	4.68	
PZ-10	12.62	8/7/2018	n.m.	n.m.	DPE-13	17	7.71	4.91	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
PZ-10	12.62	10/26/2018	n.m.	n.m.	DPE-13	17	5.82	6.8	
PZ-10	12.62	11/13/2018	n.m.	n.m.	DPE-13	17	6.78	5.84	
PZ-10	12.62	1/29/2019	n.m.	n.m.	DPE-13	17	5.60	7.02	
PZ-10	12.62	2/21/2019	n.m.	n.m.	DPE-13	17	5.55	7.07	
PZ-10	12.62	3/14/2019	n.m.	n.m.	DPE-13	17	5.65	6.97	
PZ-10	12.62	4/11/2019	n.m.	n.m.	DPE-13	17	5.60	7.02	
PZ-10	12.62	5/9/2019	n.m.	n.m.	DPE-13	17	6.31	6.31	
PZ-10	12.62	6/6/2019	n.m.	n.m.	DPE-13	17	6.14	6.48	
PZ-10	12.62	8/1/2019	n.m.	n.m.	DPE-13	17	5.81	6.81	DPE system expansion baseline event before system startup - System off
PZ-10	12.62	8/15/2019	n.m.	n.m.	DPE-13	17	5.89	6.73	
PZ-10	12.62	8/21/2019	n.m.	n.m.	DPE-13	17	6.08	6.54	
PZ-10	12.62	9/24/2019	n.m.	n.m.	DPE-13	17	6.74	5.88	
PZ-10	12.62	2/24/2020	n.m.	n.m.	DPE-13	17	6.19	6.43	
PZ-10	12.62	2/28/2020	n.m.	n.m.	DPE-13	17	6.39	6.23	
PZ-10	12.62	3/18/2020	n.m.	n.m.	DPE-13	17	6.02	6.6	
PZ-10	12.62	4/17/2020	n.m.	n.m.	DPE-13	17	6.18	6.44	
PZ-10	12.62	5/19/2020	n.m.	n.m.	DPE-13	17	6.12	6.5	
PZ-10	12.62	8/19/2020	n.m.	n.m.	DPE-13	17	6.32	6.3	
PZ-10	12.62	9/2/2020	n.m.	n.m.	DPE-13	17	6.41	6.21	
MW-20R	12.17	3/8/2018	n.m.	n.m.	DPE-5	n.a.	6.33	5.84	
MW-20R	12.17	3/14/2018	n.m.	n.m.	DPE-5	n.a.	6.50	5.67	
MW-20R	12.17	5/29/2018	n.m.	n.m.	DPE-5	n.a.	7.24	4.93	
MW-20R	12.17	6/18/2018	n.m.	n.m.	DPE-5	n.a.	7.11	5.06	SVE off
MW-20R	12.17	7/19/2018	n.m.	n.m.	DPE-5	n.a.	6.90	5.27	
MW-20R	12.17	8/7/2018	n.m.	n.m.	DPE-5	n.a.	7.15	5.02	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-20R	12.17	10/26/2018	n.m.	n.m.	DPE-5	n.a.	6.13	6.04	
MW-20R	12.17	11/13/2018	n.m.	n.m.	DPE-5	n.a.	6.21	5.96	
MW-20R	12.17	1/29/2019	n.m.	n.m.	DPE-5	n.a.	6.21	5.96	
MW-20R	12.17	2/21/2019	n.m.	n.m.	DPE-5	n.a.	6.15	6.02	
MW-20R	12.17	3/14/2019	n.m.	n.m.	DPE-5	n.a.	6.30	5.87	
MW-20R	12.17	4/11/2019	n.m.	n.m.	DPE-5	n.a.	5.96	6.21	
MW-20R	12.17	5/9/2019	n.m.	n.m.	DPE-5	n.a.	6.61	5.56	
MW-20R	12.17	6/6/2019	n.m.	n.m.	DPE-5	n.a.	6.85	5.32	
MW-20R	12.17	8/1/2019	n.m.	n.m.	DPE-5	n.a.	6.78	5.39	DPE system expansion baseline event before system startup - System off
MW-20R	12.17	8/15/2019	n.m.	n.m.	DPE-5	n.a.	6.85	5.32	
MW-20R	12.17	8/21/2019	n.m.	n.m.	DPE-5	n.a.	6.91	5.26	
MW-20R	12.17	9/24/2019	n.m.	n.m.	DPE-5	n.a.	7.30	4.87	
MW-20R	12.17	2/24/2020	n.m.	n.m.	DPE-5	n.a.	6.96	5.21	
MW-20R	12.17	2/28/2020	n.m.	n.m.	DPE-5	n.a.	7.38	4.79	
MW-20R	12.17	3/18/2020	n.m.	n.m.	DPE-5	n.a.	6.65	5.52	
MW-20R	12.17	4/17/2020	n.m.	n.m.	DPE-5	n.a.	7.18	4.99	
MW-20R	12.17	5/19/2020	n.m.	n.m.	DPE-5	n.a.	6.94	5.23	
MW-20R	12.17	8/19/2020	n.m.	n.m.	DPE-5	n.a.	7.48	4.69	
MW-20R	12.17	9/2/2020	n.m.	n.m.	DPE-5	n.a.	7.39	4.78	
MW-101	14.99	8/1/2019	n.m.	n.m.	DPE-15	9	9.03	5.96	DPE system expansion baseline event before system startup - System off
MW-101	14.99	8/15/2019	n.m.	n.m.	DPE-15	9	9.67	5.32	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-101	14.99	8/21/2019	n.m.	n.m.	DPE-15	9	9.81	5.18	
MW-101	14.99	9/24/2019	n.m.	n.m.	DPE-15	9	10.00	4.99	
MW-101	14.99	2/24/2020	n.m.	n.m.	DPE-15	9	9.93	5.06	
MW-101	14.99	2/28/2020	n.m.	n.m.	DPE-15	9	10.18	4.81	
MW-101	14.99	3/18/2020	n.m.	n.m.	DPE-15	9	9.69	5.3	
MW-101	14.99	4/17/2020	n.m.	n.m.	DPE-15	9	9.93	5.06	
MW-101	14.99	5/19/2020	n.m.	n.m.	DPE-15	9	9.76	5.23	
MW-101	14.99	8/19/2020	n.m.	n.m.	DPE-15	9	10.00	4.99	
MW-101	14.99	9/2/2020	n.m.	n.m.	DPE-15	9	9.93	5.06	
MW-104	14.08	3/8/2018	n.m.	n.m.	DPE-3	n.a.	5.32	8.76	
MW-104	14.08	3/14/2018	n.m.	n.m.	DPE-3	n.a.	8.09	5.99	
MW-104	14.08	5/29/2018	n.m.	n.m.	DPE-3	n.a.	8.89	5.19	
MW-104	14.08	6/18/2018	n.m.	n.m.	DPE-3	n.a.	8.42	5.66	
MW-104	14.08	7/19/2018	n.m.	n.m.	DPE-3	n.a.	8.50	5.58	
MW-104	14.08	8/7/2018	n.m.	n.m.	DPE-3	n.a.	8.45	5.63	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-104	14.08	10/26/2018	n.m.	n.m.	DPE-3	n.a.	8.30	5.78	
MW-104	14.08	11/13/2018	n.m.	n.m.	DPE-3	n.a.	8.51	5.57	
MW-104	14.08	1/29/2019	n.m.	n.m.	DPE-3	n.a.	7.90	6.18	
MW-104	14.08	2/21/2019	n.m.	n.m.	DPE-3	n.a.	7.69	6.39	
MW-104	14.08	3/14/2019	n.m.	n.m.	DPE-3	n.a.	8.19	5.89	
MW-104	14.08	4/11/2019	n.m.	n.m.	DPE-3	n.a.	7.73	6.35	
MW-104	14.08	5/9/2019	n.m.	n.m.	DPE-3	n.a.	8.31	5.77	
MW-104	14.08	6/6/2019	n.m.	n.m.	DPE-3	n.a.	8.45	5.63	
MW-104	14.08	8/1/2019	n.m.	n.m.	DPE-3	n.a.	8.32	5.76	DPE system expansion baseline event before system startup - System off
MW-104	14.08	8/15/2019	n.m.	n.m.	DPE-3	n.a.	8.54	5.54	
MW-104	14.08	8/21/2019	n.m.	n.m.	DPE-3	n.a.	8.68	5.40	
MW-104	14.08	9/24/2019	n.m.	n.m.	DPE-3	n.a.	8.94	5.14	
MW-104	14.08	2/24/2020	n.m.	n.m.	DPE-3	n.a.	8.69	5.39	
MW-104	14.08	2/28/2020	n.m.	n.m.	DPE-3	n.a.	9.18	4.90	
MW-104	14.08	3/18/2020	n.m.	n.m.	DPE-3	n.a.	8.46	5.62	
MW-104	14.08	4/17/2020	n.m.	n.m.	DPE-3	n.a.	8.91	5.17	
MW-104	14.08	5/19/2020	n.m.	n.m.	DPE-3	n.a.	8.63	5.45	
MW-104	14.08	8/19/2020	n.m.	n.m.	DPE-3	n.a.	9.13	4.95	
MW-104	14.08	9/2/2020	n.m.	n.m.	DPE-3	n.a.	9.04	5.04	
MW-126	12.40	11/28/2017	n.m.	n.m.	DPE-6	45	3.83	8.57	DPE system baseline event before system startup - System off
MW-126	12.40	11/30/2017	n.m.	n.m.	DPE-6	45	3.78	8.62	DPE system testing
MW-126	12.40	12/1/2017	n.m.	n.m.	DPE-6	45	4.07	8.33	DPE system startup (groundwater extraction only)
MW-126	12.40	12/5/2017	n.m.	n.m.	DPE-6	45	5.03	7.37	
MW-126	12.40	12/13/2017	n.m.	n.m.	DPE-6	45	5.70	6.70	
MW-126	12.40	12/13/2017	n.m.	n.m.	DPE-6	45	5.41	6.99	
MW-126	12.40	12/14/2017	n.m.	n.m.	DPE-6	45	6.02	6.38	
MW-126	12.40	12/20/2017	n.m.	n.m.	DPE-6	45	4.74	7.66	
MW-126	12.40	12/27/2017	n.m.	n.m.	DPE-6	45	#N/A	#N/A	Not Gauged
MW-126	12.40	1/5/2018	n.m.	n.m.	DPE-6	45	5.10	7.30	
MW-126	12.40	1/9/2018	n.m.	n.m.	DPE-6	45	4.39	8.01	
MW-126	12.40	1/18/2018	n.m.	n.m.	DPE-6	45	4.17	8.23	

Table 4-6
 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-126	12.40	1/24/2018	n.m.	n.m.	DPE-6	45	4.00	8.40	
MW-126	12.40	2/1/2018	n.m.	n.m.	DPE-6	45	5.25	7.15	
MW-126	12.40	2/8/2018	n.m.	n.m.	DPE-6	45	4.44	7.96	
MW-126	12.40	2/13/2018	n.m.	n.m.	DPE-6	45	4.69	7.71	SVE off
MW-126	12.40	2/20/2018	n.m.	n.m.	DPE-6	45	4.94	7.46	
MW-126	12.40	2/28/2018	n.m.	n.m.	DPE-6	45	5.62	6.78	
MW-126	12.40	3/8/2018	n.m.	n.m.	DPE-6	45	4.90	7.5	
MW-126	12.40	3/14/2018	n.m.	n.m.	DPE-6	45	4.78	7.62	
MW-126	12.40	5/29/2018	n.m.	n.m.	DPE-6	45	6.29	6.11	
MW-126	12.40	6/18/2018	n.m.	n.m.	DPE-6	45	5.64	6.76	SVE off
MW-126	12.40	7/19/2018	n.m.	n.m.	DPE-6	45	6.64	5.76	
MW-126	12.40	8/7/2018	n.m.	n.m.	DPE-6	45	6.86	5.54	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-126	12.40	10/26/2018	n.m.	n.m.	DPE-6	45	5.20	7.2	
MW-126	12.40	11/13/2018	n.m.	n.m.	DPE-6	45	5.92	6.48	
MW-126	12.40	1/29/2019	n.m.	n.m.	DPE-6	45	3.63	8.77	
MW-126	12.40	2/21/2019	n.m.	n.m.	DPE-6	45	4.34	8.06	
MW-126	12.40	3/14/2019	n.m.	n.m.	DPE-6	45	4.70	7.70	
MW-126	12.40	4/11/2019	n.m.	n.m.	DPE-6	45	4.70	7.70	
MW-126	12.40	5/9/2019	n.m.	n.m.	DPE-6	45	5.26	7.14	
MW-126	12.40	6/6/2019	n.m.	n.m.	DPE-6	45	5.49	6.91	
MW-126	12.40	8/1/2019	n.m.	n.m.	DPE-6	45	5.83	6.57	DPE system expansion baseline event before system startup - System off
MW-126	12.40	8/15/2019	n.m.	n.m.	DPE-6	45	5.96	6.44	
MW-126	12.40	8/21/2019	n.m.	n.m.	DPE-6	45	6.34	6.06	
MW-126	12.40	9/24/2019	n.m.	n.m.	DPE-6	45	6.17	6.23	
MW-126	12.40	2/24/2020	n.m.	n.m.	DPE-6	45	5.03	7.37	
MW-126	12.40	2/28/2020	n.m.	n.m.	DPE-6	45	5.38	7.02	
MW-126	12.40	3/18/2020	n.m.	n.m.	DPE-6	45	5.30	7.1	
MW-126	12.40	4/17/2020	n.m.	n.m.	DPE-6	45	5.94	6.46	
MW-126	12.40	5/19/2020	n.m.	n.m.	DPE-6	45	5.83	6.57	
MW-126	12.40	8/19/2020	n.m.	n.m.	DPE-6	45	6.47	5.93	
MW-126	12.40	9/2/2020	n.m.	n.m.	DPE-6	45	6.61	5.79	
MW-129-R	12.92	8/1/2019	n.m.	n.m.	DPE-18	8	5.75	7.17	DPE system expansion baseline event before system startup - System off
MW-129-R	12.92	8/15/2019	n.m.	n.m.	DPE-18	8	7.09	5.83	
MW-129-R	12.92	8/21/2019	n.m.	n.m.	DPE-18	8	7.24	5.68	
MW-129-R	12.92	9/24/2019	n.m.	n.m.	DPE-18	8	7.27	5.65	
MW-129-R	12.92	2/24/2020	n.m.	n.m.	DPE-18	8	7.53	5.39	
MW-129-R	12.92	2/28/2020	n.m.	n.m.	DPE-18	8	7.20	5.72	
MW-129-R	12.92	3/18/2020	n.m.	n.m.	DPE-18	8	7.21	5.71	Non-measurable LNAPL thickness (< 0.1 foot)
MW-129-R	12.92	4/17/2020	n.m.	n.m.	DPE-18	8	7.02	5.9	
MW-129-R	12.92	5/19/2020	n.m.	n.m.	DPE-18	8	7.06	5.86	
MW-129-R	12.92	8/19/2020	n.m.	n.m.	DPE-18	8	6.86	6.06	
MW-129-R	12.92	9/2/2020	n.m.	n.m.	DPE-18	8	7.17	5.75	
MW-143	11.94	11/28/2017	n.m.	n.m.	DPE-6	30	4.17	7.77	DPE system baseline event before system startup - System off
MW-143	11.94	11/30/2017	n.m.	n.m.	DPE-6	30	4.38	7.56	DPE system testing
MW-143	11.94	12/1/2017	n.m.	n.m.	DPE-6	30	4.81	7.13	DPE system startup (groundwater extraction only)
MW-143	11.94	12/5/2017	n.m.	n.m.	DPE-6	30	6.22	5.72	

Table 4-6
 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-143	11.94	12/13/2017	n.m.	n.m.	DPE-6	30	6.84	5.10	
MW-143	11.94	12/13/2017	n.m.	n.m.	DPE-6	30	5.89	6.05	
MW-143	11.94	12/14/2017	n.m.	n.m.	DPE-6	30	5.85	6.09	
MW-143	11.94	12/20/2017	n.m.	n.m.	DPE-6	30	5.79	6.15	
MW-143	11.94	12/27/2017	n.m.	n.m.	DPE-6	30	#N/A	#N/A	Not Gauged
MW-143	11.94	1/5/2018	n.m.	n.m.	DPE-6	30	6.20	5.74	
MW-143	11.94	1/9/2018	n.m.	n.m.	DPE-6	30	5.17	6.77	
MW-143	11.94	1/18/2018	n.m.	n.m.	DPE-6	30	4.84	7.10	
MW-143	11.94	1/24/2018	n.m.	n.m.	DPE-6	30	4.94	7.00	
MW-143	11.94	2/1/2018	n.m.	n.m.	DPE-6	30	6.42	5.52	
MW-143	11.94	2/8/2018	n.m.	n.m.	DPE-6	30	4.92	7.02	
MW-143	11.94	2/13/2018	n.m.	n.m.	DPE-6	30	5.15	6.79	SVE off
MW-143	11.94	2/20/2018	n.m.	n.m.	DPE-6	30	5.42	6.52	
MW-143	11.94	2/28/2018	n.m.	n.m.	DPE-6	30	6.41	5.53	
MW-143	11.94	3/8/2018	n.m.	n.m.	DPE-6	30	5.11	6.83	
MW-143	11.94	3/14/2018	n.m.	n.m.	DPE-6	30	4.99	6.95	
MW-143	11.94	5/29/2018	n.m.	n.m.	DPE-6	30	6.30	5.64	
MW-143	11.94	6/18/2018	n.m.	n.m.	DPE-6	30	6.21	5.73	SVE off
MW-143	11.94	7/19/2018	n.m.	n.m.	DPE-6	30	6.06	5.88	
MW-143	11.94	8/7/2018	n.m.	n.m.	DPE-6	30	6.55	5.39	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-143	11.94	10/26/2018	n.m.	n.m.	DPE-6	30	5.70	6.24	
MW-143	11.94	11/13/2018	n.m.	n.m.	DPE-6	30	6.28	5.66	
MW-143	11.94	1/29/2019	n.m.	n.m.	DPE-6	30	3.99	7.95	
MW-143	11.94	2/21/2019	n.m.	n.m.	DPE-6	30	4.29	7.65	
MW-143	11.94	3/14/2019	n.m.	n.m.	DPE-6	30	4.82	7.12	
MW-143	11.94	4/11/2019	n.m.	n.m.	DPE-6	30	4.78	7.16	
MW-143	11.94	5/9/2019	n.m.	n.m.	DPE-6	30	5.45	6.49	
MW-143	11.94	6/6/2019	n.m.	n.m.	DPE-6	30	5.80	6.14	
MW-143	11.94	8/1/2019	n.m.	n.m.	DPE-6	30	5.59	6.35	DPE system expansion baseline event before system startup - System off
MW-143	11.94	8/15/2019	n.m.	n.m.	DPE-6	30	5.69	6.25	
MW-143	11.94	8/21/2019	n.m.	n.m.	DPE-6	30	6.04	5.90	
MW-143	11.94	9/24/2019	n.m.	n.m.	DPE-6	30	6.10	5.84	
MW-143	11.94	2/24/2020	n.m.	n.m.	DPE-6	30	5.30	6.64	
MW-143	11.94	2/28/2020	n.m.	n.m.	DPE-6	30	5.32	6.62	
MW-143	11.94	3/18/2020	n.m.	n.m.	DPE-6	30	4.90	7.04	
MW-143	11.94	4/17/2020	n.m.	n.m.	DPE-6	30	5.76	6.18	
MW-143	11.94	5/19/2020	n.m.	n.m.	DPE-6	30	5.69	6.25	
MW-143	11.94	8/19/2020	n.m.	n.m.	DPE-6	30	6.43	5.51	
MW-143	11.94	9/2/2020	n.m.	n.m.	DPE-6	30	6.45	5.49	
MW-502	13.00	3/8/2018	n.m.	n.m.	DPE-14	n.a.	5.33	7.67	
MW-502	13.00	3/14/2018	n.m.	n.m.	DPE-14	n.a.	5.32	7.68	
MW-502	13.00	5/29/2018	n.m.	n.m.	DPE-14	n.a.	6.44	6.56	
MW-502	13.00	6/18/2018	n.m.	n.m.	DPE-14	n.a.	6.58	6.42	
MW-502	13.00	7/19/2018	n.m.	n.m.	DPE-14	n.a.	6.20	6.8	
MW-502	13.00	8/7/2018	n.m.	n.m.	DPE-14	n.a.	6.91	6.09	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-502	13.00	10/26/2018	n.m.	n.m.	DPE-14	n.a.	5.65	7.35	

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 Observation Well Data
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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-502	13.00	11/13/2018	n.m.	n.m.	DPE-14	n.a.	6.09	6.91	
MW-502	13.00	1/29/2019	n.m.	n.m.	DPE-14	n.a.	5.53	7.47	
MW-502	13.00	2/21/2019	n.m.	n.m.	DPE-14	n.a.	5.28	7.72	
MW-502	13.00	3/14/2019	n.m.	n.m.	DPE-14	n.a.	5.59	7.41	
MW-502	13.00	4/11/2019	n.m.	n.m.	DPE-14	n.a.	5.36	7.64	
MW-502	13.00	5/9/2019	n.m.	n.m.	DPE-14	n.a.	6.05	6.95	
MW-502	13.00	6/6/2019	n.m.	n.m.	DPE-14	n.a.	8.96	4.04	
MW-502	13.00	8/1/2019	n.m.	n.m.	DPE-14	n.a.	5.49	7.51	DPE system expansion baseline event before system startup - System off
MW-502	13.00	8/15/2019	n.m.	n.m.	DPE-14	n.a.	5.58	7.42	
MW-502	13.00	8/21/2019	n.m.	n.m.	DPE-14	n.a.	5.71	7.29	
MW-502	13.00	9/24/2019	n.m.	n.m.	DPE-14	n.a.	6.14	6.86	
MW-502	13.00	2/24/2020	n.m.	n.m.	DPE-14	n.a.	5.64	7.36	
MW-502	13.00	2/28/2020	n.m.	n.m.	DPE-14	n.a.	5.66	7.34	
MW-502	13.00	3/18/2020	n.m.	n.m.	DPE-14	n.a.	5.51	7.49	
MW-502	13.00	4/17/2020	n.m.	n.m.	DPE-14	n.a.	5.76	7.24	
MW-502	13.00	5/19/2020	n.m.	n.m.	DPE-14	n.a.	5.77	7.23	
MW-502	13.00	8/19/2020	n.m.	n.m.	DPE-14	n.a.	6.03	6.97	
MW-502	13.00	9/2/2020	n.m.	n.m.	DPE-14	n.a.	6.14	6.86	
MW-503	12.22	3/8/2018	n.m.	n.m.	DPE-14	n.a.	5.18	7.04	
MW-503	12.22	3/14/2018	n.m.	n.m.	DPE-14	n.a.	5.22	7.00	
MW-503	12.22	5/29/2018	n.m.	n.m.	DPE-14	n.a.	5.94	6.28	
MW-503	12.22	6/18/2018	n.m.	n.m.	DPE-14	n.a.	5.87	6.35	
MW-503	12.22	7/19/2018	n.m.	n.m.	DPE-14	n.a.	5.79	6.43	
MW-503	12.22	8/7/2018	n.m.	n.m.	DPE-14	n.a.	6.20	6.02	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-503	12.22	10/26/2018	n.m.	n.m.	DPE-14	n.a.	5.32	6.9	
MW-503	12.22	11/13/2018	n.m.	n.m.	DPE-14	n.a.	5.42	6.80	
MW-503	12.22	1/29/2019	n.m.	n.m.	DPE-14	n.a.	5.40	6.82	
MW-503	12.22	2/21/2019	n.m.	n.m.	DPE-14	n.a.	4.88	7.34	
MW-503	12.22	3/14/2019	n.m.	n.m.	DPE-14	n.a.	5.33	6.89	
MW-503	12.22	4/11/2019	n.m.	n.m.	DPE-14	n.a.	5.15	7.07	
MW-503	12.22	5/9/2019	n.m.	n.m.	DPE-14	n.a.	5.50	6.72	
MW-503	12.22	6/6/2019	n.m.	n.m.	DPE-14	n.a.	5.52	6.7	
MW-503	12.22	8/1/2019	n.m.	n.m.	DPE-14	n.a.	5.24	6.98	DPE system expansion baseline event before system startup - System off
MW-503	12.22	8/15/2019	n.m.	n.m.	DPE-14	n.a.	5.35	6.87	
MW-503	12.22	8/21/2019	n.m.	n.m.	DPE-14	n.a.	5.50	6.72	
MW-503	12.22	9/24/2019	n.m.	n.m.	DPE-14	n.a.	5.58	6.64	
MW-503	12.22	2/24/2020	n.m.	n.m.	DPE-14	n.a.	5.59	6.63	
MW-503	12.22	2/28/2020	n.m.	n.m.	DPE-14	n.a.	5.65	6.57	
MW-503	12.22	3/18/2020	n.m.	n.m.	DPE-14	n.a.	5.37	6.85	
MW-503	12.22	4/17/2020	n.m.	n.m.	DPE-14	n.a.	5.51	6.71	
MW-503	12.22	5/19/2020	n.m.	n.m.	DPE-14	n.a.	5.46	6.76	
MW-503	12.22	8/19/2020	n.m.	n.m.	DPE-14	n.a.	5.58	6.64	
MW-503	12.22	9/2/2020	n.m.	n.m.	DPE-14	n.a.	5.72	6.5	
MW-511	15.20	11/28/2017	n.m.	n.m.	DPE-11	52	7.24	7.96	DPE system baseline event before system startup - System off
MW-511	15.20	11/30/2017	n.m.	n.m.	DPE-11	52	7.51	7.69	DPE system testing
MW-511	15.20	12/1/2017	n.m.	n.m.	DPE-11	52	7.45	7.75	DPE system startup (groundwater extraction only) - DPE-11 off

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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-511	15.20	12/5/2017	n.m.	n.m.	DPE-11	52	8.48	6.72	DPE-11 off
MW-511	15.20	12/13/2017	n.m.	n.m.	DPE-11	52	9.10	6.10	DPE-11 repaired
MW-511	15.20	12/13/2017	n.m.	n.m.	DPE-11	52	9.16	6.04	
MW-511	15.20	12/14/2017	n.m.	n.m.	DPE-11	52	9.35	5.85	
MW-511	15.20	12/20/2017	n.m.	n.m.	DPE-11	52	9.15	6.05	
MW-511	15.20	12/27/2017	n.m.	n.m.	DPE-11	52	9.67	5.53	
MW-511	15.20	1/5/2018	n.m.	n.m.	DPE-11	52	9.04	6.16	
MW-511	15.20	1/9/2018	n.m.	n.m.	DPE-11	52	8.63	6.57	
MW-511	15.20	1/18/2018	n.m.	n.m.	DPE-11	52	8.45	6.75	
MW-511	15.20	1/24/2018	n.m.	n.m.	DPE-11	52	8.41	6.79	
MW-511	15.20	2/1/2018	n.m.	n.m.	DPE-11	52	9.22	5.98	
MW-511	15.20	2/8/2018	n.m.	n.m.	DPE-11	52	8.12	7.08	DPE-11 off
MW-511	15.20	2/13/2018	n.m.	n.m.	DPE-11	52	8.12	7.08	SVE off
MW-511	15.20	2/20/2018	n.m.	n.m.	DPE-11	52	8.35	6.85	
MW-511	15.20	2/28/2018	n.m.	n.m.	DPE-11	52	8.64	6.56	DPE-11 off
MW-511	15.20	3/8/2018	n.m.	n.m.	DPE-11	52	8.21	6.99	DPE-11 off
MW-511	15.20	3/14/2018	n.m.	n.m.	DPE-11	52	8.09	7.11	DPE-11 off
MW-511	15.20	5/29/2018	n.m.	n.m.	DPE-11	52	9.19	6.01	
MW-511	15.20	6/18/2018	n.m.	n.m.	DPE-11	52	9.13	6.07	
MW-511	15.20	7/19/2018	n.m.	n.m.	DPE-11	52	8.80	6.4	
MW-511	15.20	8/7/2018	n.m.	n.m.	DPE-11	52	9.50	5.7	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-511	15.20	10/26/2018	n.m.	n.m.	DPE-11	52	8.41	6.79	
MW-511	15.20	11/13/2018	n.m.	n.m.	DPE-11	52	8.76	6.44	
MW-511	15.20	1/29/2019	n.m.	n.m.	DPE-11	52	8.10	7.10	
MW-511	15.20	2/21/2019	n.m.	n.m.	DPE-11	52	7.95	7.25	
MW-511	15.20	3/14/2019	n.m.	n.m.	DPE-11	52	8.32	6.88	
MW-511	15.20	4/11/2019	n.m.	n.m.	DPE-11	52	8.11	7.09	
MW-511	15.20	5/9/2019	n.m.	n.m.	DPE-11	52	8.82	6.38	
MW-511	15.20	6/6/2019	n.m.	n.m.	DPE-11	52	8.83	6.37	
MW-511	15.20	8/1/2019	n.m.	n.m.	DPE-11	52	8.14	7.06	DPE system expansion baseline event before system startup - System off
MW-511	15.20	8/15/2019	n.m.	n.m.	DPE-11	52	8.24	6.96	
MW-511	15.20	8/21/2019	n.m.	n.m.	DPE-11	52	8.49	6.71	
MW-511	15.20	9/24/2019	n.m.	n.m.	DPE-11	52	8.80	6.4	
MW-511	15.20	2/24/2020	n.m.	n.m.	DPE-11	52	8.39	6.81	
MW-511	15.20	2/28/2020	n.m.	n.m.	DPE-11	52	8.62	6.58	
MW-511	15.20	3/18/2020	n.m.	n.m.	DPE-11	52	8.36	6.84	
MW-511	15.20	4/17/2020	n.m.	n.m.	DPE-11	52	8.71	6.49	
MW-511	15.20	5/19/2020	n.m.	n.m.	DPE-11	52	8.61	6.59	
MW-511	15.20	8/19/2020	n.m.	n.m.	DPE-11	52	8.92	6.28	
MW-511	15.20	9/2/2020	n.m.	n.m.	DPE-11	52	8.99	6.21	
MW-512	13.19	11/28/2017	n.m.	n.m.	DPE-11	38	6.21	6.98	DPE system baseline event before system startup - System off
MW-512	13.19	11/30/2017	n.m.	n.m.	DPE-11	38	6.24	6.95	DPE system testing
MW-512	13.19	12/1/2017	n.m.	n.m.	DPE-11	38	6.30	6.89	DPE system startup (groundwater extraction only) - DPE-11 off
MW-512	13.19	12/5/2017	n.m.	n.m.	DPE-11	38	6.51	6.68	DPE-11 off
MW-512	13.19	12/13/2017	n.m.	n.m.	DPE-11	38	6.94	6.25	DPE-11 repaired
MW-512	13.19	12/13/2017	n.m.	n.m.	DPE-11	38	6.95	6.24	

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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-512	13.19	12/14/2017	n.m.	n.m.	DPE-11	38	6.99	6.20	
MW-512	13.19	12/20/2017	n.m.	n.m.	DPE-11	38	6.16	7.03	
MW-512	13.19	12/27/2017	n.m.	n.m.	DPE-11	38	6.88	6.31	
MW-512	13.19	1/5/2018	n.m.	n.m.	DPE-11	38	6.61	6.58	
MW-512	13.19	1/9/2018	n.m.	n.m.	DPE-11	38	6.44	6.75	
MW-512	13.19	1/18/2018	n.m.	n.m.	DPE-11	38	6.10	7.09	
MW-512	13.19	1/24/2018	n.m.	n.m.	DPE-11	38	6.14	7.05	
MW-512	13.19	2/1/2018	n.m.	n.m.	DPE-11	38	6.45	6.74	
MW-512	13.19	2/8/2018	n.m.	n.m.	DPE-11	38	6.62	6.57	DPE-11 off
MW-512	13.19	2/13/2018	n.m.	n.m.	DPE-11	38	6.75	6.44	SVE off
MW-512	13.19	2/20/2018	n.m.	n.m.	DPE-11	38	6.85	6.34	
MW-512	13.19	2/28/2018	n.m.	n.m.	DPE-11	38	6.87	6.32	DPE-11 off
MW-512	13.19	3/8/2018	n.m.	n.m.	DPE-11	38	6.54	6.65	DPE-11 off
MW-512	13.19	3/14/2018	n.m.	n.m.	DPE-11	38	6.56	6.63	DPE-11 off
MW-512	13.19	5/29/2018	n.m.	n.m.	DPE-11	38	7.12	6.07	
MW-512	13.19	6/18/2018	n.m.	n.m.	DPE-11	38	7.01	6.18	
MW-512	13.19	7/19/2018	n.m.	n.m.	DPE-11	38	6.98	6.21	
MW-512	13.19	8/7/2018	n.m.	n.m.	DPE-11	38	7.57	5.62	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-512	13.19	10/26/2018	n.m.	n.m.	DPE-11	38	6.74	6.45	
MW-512	13.19	11/13/2018	n.m.	n.m.	DPE-11	38	7.00	6.19	
MW-512	13.19	1/29/2019	n.m.	n.m.	DPE-11	38	6.68	6.51	
MW-512	13.19	2/21/2019	n.m.	n.m.	DPE-11	38	6.45	6.74	
MW-512	13.19	3/14/2019	n.m.	n.m.	DPE-11	38	6.64	6.55	
MW-512	13.19	4/11/2019	n.m.	n.m.	DPE-11	38	6.12	7.07	
MW-512	13.19	5/9/2019	n.m.	n.m.	DPE-11	38	6.81	6.38	
MW-512	13.19	6/6/2019	n.m.	n.m.	DPE-11	38	6.82	6.37	
MW-512	13.19	8/1/2019	n.m.	n.m.	DPE-11	38	6.56	6.63	DPE system expansion baseline event before system startup - System off
MW-512	13.19	8/15/2019	n.m.	n.m.	DPE-11	38	6.69	6.5	
MW-512	13.19	8/21/2019	n.m.	n.m.	DPE-11	38	6.89	6.30	
MW-512	13.19	9/24/2019	n.m.	n.m.	DPE-11	38	6.81	6.38	
MW-512	13.19	2/24/2020	n.m.	n.m.	DPE-11	38	6.92	6.27	
MW-512	13.19	2/28/2020	n.m.	n.m.	DPE-11	38	7.02	6.17	
MW-512	13.19	3/18/2020	n.m.	n.m.	DPE-11	38	6.67	6.52	
MW-512	13.19	4/17/2020	n.m.	n.m.	DPE-11	38	6.82	6.37	
MW-512	13.19	5/19/2020	n.m.	n.m.	DPE-11	38	6.76	6.43	
MW-512	13.19	8/19/2020	n.m.	n.m.	DPE-11	38	6.91	6.28	
MW-512	13.19	9/2/2020	n.m.	n.m.	DPE-11	38	7.03	6.16	
MW-514	11.39	3/8/2018	n.m.	n.m.	DPE-11	n.a.	4.71	6.68	
MW-514	11.39	3/14/2018	n.m.	n.m.	DPE-11	n.a.	4.78	6.61	
MW-514	11.39	5/29/2018	n.m.	n.m.	DPE-11	n.a.	5.30	6.09	
MW-514	11.39	6/18/2018	n.m.	n.m.	DPE-11	n.a.	5.18	6.21	
MW-514	11.39	7/19/2018	n.m.	n.m.	DPE-11	n.a.	5.19	6.2	
MW-514	11.39	8/7/2018	n.m.	n.m.	DPE-11	n.a.	5.62	5.77	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-514	11.39	10/26/2018	n.m.	n.m.	DPE-11	n.a.	4.91	6.48	
MW-514	11.39	11/13/2018	n.m.	n.m.	DPE-11	n.a.	5.16	6.23	
MW-514	11.39	1/29/2019	n.m.	n.m.	DPE-11	n.a.	4.82	6.57	

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Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-514	11.39	2/21/2019	n.m.	n.m.	DPE-11	n.a.	4.62	6.77	
MW-514	11.39	3/14/2019	n.m.	n.m.	DPE-11	n.a.	4.86	6.53	
MW-514	11.39	4/11/2019	n.m.	n.m.	DPE-11	n.a.	4.74	6.65	
MW-514	11.39	5/9/2019	n.m.	n.m.	DPE-11	n.a.	4.96	6.43	
MW-514	11.39	6/6/2019	n.m.	n.m.	DPE-11	n.a.	4.96	6.43	
MW-514	11.39	8/1/2019	n.m.	n.m.	DPE-11	n.a.	4.72	6.67	DPE system expansion baseline event before system startup - System off
MW-514	11.39	8/15/2019	n.m.	n.m.	DPE-11	n.a.	4.85	6.54	
MW-514	11.39	8/21/2019	n.m.	n.m.	DPE-11	n.a.	5.03	6.36	
MW-514	11.39	9/24/2019	n.m.	n.m.	DPE-11	n.a.	4.98	6.41	
MW-514	11.39	2/24/2020	n.m.	n.m.	DPE-11	n.a.	5.07	6.32	
MW-514	11.39	2/28/2020	n.m.	n.m.	DPE-11	n.a.	5.20	6.19	
MW-514	11.39	3/18/2020	n.m.	n.m.	DPE-11	n.a.	4.84	6.55	
MW-514	11.39	4/17/2020	n.m.	n.m.	DPE-11	n.a.	4.99	6.4	
MW-514	11.39	5/19/2020	n.m.	n.m.	DPE-11	n.a.	4.92	6.47	
MW-514	11.39	8/19/2020	n.m.	n.m.	DPE-11	n.a.	5.52	5.87	
MW-514	11.39	9/2/2020	n.m.	n.m.	DPE-11	n.a.	5.21	6.18	
MW-518	14.60	8/1/2019	n.m.	n.m.	DPE-16	8	8.59	6.01	DPE system expansion baseline event before system startup - System off
MW-518	14.60	8/15/2019	n.m.	n.m.	DPE-16	8	9.55	5.05	
MW-518	14.60	8/21/2019	n.m.	n.m.	DPE-16	8	9.62	4.98	
MW-518	14.60	9/24/2019	n.m.	n.m.	DPE-16	8	9.95	4.65	
MW-518	14.60	2/24/2020	n.m.	n.m.	DPE-16	8	9.71	4.89	
MW-518	14.60	2/28/2020	n.m.	n.m.	DPE-16	8	9.85	4.75	
MW-518	14.60	3/18/2020	n.m.	n.m.	DPE-16	8	9.42	5.18	
MW-518	14.60	4/17/2020	n.m.	n.m.	DPE-16	8	9.81	4.79	
MW-518	14.60	5/19/2020	n.m.	n.m.	DPE-16	8	9.66	4.94	
MW-518	14.60	8/19/2020	n.m.	n.m.	DPE-16	8	9.92	4.68	
MW-518	14.60	9/2/2020	n.m.	n.m.	DPE-16	8	9.86	4.74	
MW-519	12.60	11/28/2017	n.m.	n.m.	DPE-6	62	6.71	5.89	DPE system baseline event before system startup - System off
MW-519	12.60	11/30/2017	n.m.	n.m.	DPE-6	62	5.98	6.62	DPE system testing
MW-519	12.60	12/1/2017	n.m.	n.m.	DPE-6	62	6.10	6.50	DPE system startup (groundwater extraction only)
MW-519	12.60	12/5/2017	n.m.	n.m.	DPE-6	62	6.76	5.84	
MW-519	12.60	12/13/2017	n.m.	n.m.	DPE-6	62	7.35	5.25	
MW-519	12.60	12/13/2017	n.m.	n.m.	DPE-6	62	7.32	5.28	
MW-519	12.60	12/14/2017	n.m.	n.m.	DPE-6	62	7.39	5.21	
MW-519	12.60	12/20/2017	n.m.	n.m.	DPE-6	62	6.71	5.89	
MW-519	12.60	12/27/2017	n.m.	n.m.	DPE-6	62	#N/A	#N/A	Not Gauged
MW-519	12.60	1/5/2018	n.m.	n.m.	DPE-6	62	6.90	5.70	
MW-519	12.60	1/9/2018	n.m.	n.m.	DPE-6	62	9.25	3.35	
MW-519	12.60	1/18/2018	n.m.	n.m.	DPE-6	62	6.10	6.50	
MW-519	12.60	1/24/2018	n.m.	n.m.	DPE-6	62	5.83	6.77	
MW-519	12.60	2/1/2018	n.m.	n.m.	DPE-6	62	6.49	6.11	
MW-519	12.60	2/8/2018	n.m.	n.m.	DPE-6	62	6.75	5.85	
MW-519	12.60	2/13/2018	n.m.	n.m.	DPE-6	62	7.13	5.47	SVE off
MW-519	12.60	2/20/2018	n.m.	n.m.	DPE-6	62	7.22	5.38	
MW-519	12.60	2/28/2018	n.m.	n.m.	DPE-6	62	7.43	5.17	
MW-519	12.60	3/8/2018	n.m.	n.m.	DPE-6	62	7.15	5.45	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-519	12.60	3/14/2018	n.m.	n.m.	DPE-6	62	7.00	5.60	
MW-519	12.60	5/29/2018	n.m.	n.m.	DPE-6	62	7.29	5.31	
MW-519	12.60	6/18/2018	n.m.	n.m.	DPE-6	62	7.30	5.30	SVE off
MW-519	12.60	7/19/2018	n.m.	n.m.	DPE-6	62	7.14	5.46	
MW-519	12.60	8/7/2018	n.m.	n.m.	DPE-6	62	7.34	5.26	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-519	12.60	10/26/2018	n.m.	n.m.	DPE-6	62	7.02	5.58	
MW-519	12.60	11/13/2018	n.m.	n.m.	DPE-6	62	7.42	5.18	
MW-519	12.60	1/29/2019	n.m.	n.m.	DPE-6	62	6.81	5.79	
MW-519	12.60	2/21/2019	n.m.	n.m.	DPE-6	62	6.52	6.08	
MW-519	12.60	3/14/2019	n.m.	n.m.	DPE-6	62	7.11	5.49	
MW-519	12.60	4/11/2019	n.m.	n.m.	DPE-6	62	6.52	6.08	
MW-519	12.60	5/9/2019	n.m.	n.m.	DPE-6	62	7.30	5.30	
MW-519	12.60	6/6/2019	n.m.	n.m.	DPE-6	62	7.31	5.29	
MW-519	12.60	8/1/2019	n.m.	n.m.	DPE-6	62	7.01	5.59	DPE system expansion baseline event before system startup - System off
MW-519	12.60	8/15/2019	n.m.	n.m.	DPE-6	62	7.11	5.49	
MW-519	12.60	8/21/2019	n.m.	n.m.	DPE-6	62	7.39	5.21	
MW-519	12.60	9/24/2019	n.m.	n.m.	DPE-6	62	7.25	5.35	
MW-519	12.60	2/24/2020	n.m.	n.m.	DPE-6	62	7.33	5.27	
MW-519	12.60	2/28/2020	n.m.	n.m.	DPE-6	62	7.60	5.00	
MW-519	12.60	3/18/2020	n.m.	n.m.	DPE-6	62	7.19	5.41	
MW-519	12.60	4/17/2020	n.m.	n.m.	DPE-6	62	7.61	4.99	
MW-519	12.60	5/19/2020	n.m.	n.m.	DPE-6	62	7.04	5.56	
MW-519	12.60	8/19/2020	n.m.	n.m.	DPE-6	62	7.56	5.04	
MW-519	12.60	9/2/2020	n.m.	n.m.	DPE-6	62	7.57	5.03	
MW-520	13.31	3/8/2018	n.m.	n.m.	DPE-5	n.a.	7.83	5.48	
MW-520	13.31	3/14/2018	n.m.	n.m.	DPE-5	n.a.	7.70	5.61	
MW-520	13.31	5/29/2018	n.m.	n.m.	DPE-5	n.a.	7.97	5.34	
MW-520	13.31	6/18/2018	n.m.	n.m.	DPE-5	n.a.	7.96	5.35	SVE off
MW-520	13.31	7/19/2018	n.m.	n.m.	DPE-5	n.a.	7.83	5.48	
MW-520	13.31	8/7/2018	n.m.	n.m.	DPE-5	n.a.	8.03	5.28	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-520	13.31	10/26/2018	n.m.	n.m.	DPE-5	n.a.	7.71	5.6	
MW-520	13.31	11/13/2018	n.m.	n.m.	DPE-5	n.a.	8.10	5.21	
MW-520	13.31	1/29/2019	n.m.	n.m.	DPE-5	n.a.	7.49	5.82	
MW-520	13.31	2/21/2019	n.m.	n.m.	DPE-5	n.a.	7.21	6.10	
MW-520	13.31	3/14/2019	n.m.	n.m.	DPE-5	n.a.	7.82	5.49	
MW-520	13.31	4/11/2019	n.m.	n.m.	DPE-5	n.a.	7.21	6.10	
MW-520	13.31	5/9/2019	n.m.	n.m.	DPE-5	n.a.	8.05	5.26	
MW-520	13.31	6/6/2019	n.m.	n.m.	DPE-5	n.a.	8.05	5.26	
MW-520	13.31	8/1/2019	n.m.	n.m.	DPE-5	n.a.	7.71	5.6	DPE system expansion baseline event before system startup - System off
MW-520	13.31	8/15/2019	n.m.	n.m.	DPE-5	n.a.	7.80	5.51	
MW-520	13.31	8/21/2019	n.m.	n.m.	DPE-5	n.a.	8.07	5.24	
MW-520	13.31	9/24/2019	n.m.	n.m.	DPE-5	n.a.	7.93	5.38	
MW-520	13.31	2/24/2020	n.m.	n.m.	DPE-5	n.a.	7.98	5.33	
MW-520	13.31	2/28/2020	n.m.	n.m.	DPE-5	n.a.	8.25	5.06	
MW-520	13.31	3/18/2020	n.m.	n.m.	DPE-5	n.a.	7.86	5.45	
MW-520	13.31	4/17/2020	n.m.	n.m.	DPE-5	n.a.	8.25	5.06	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-520	13.31	5/19/2020	n.m.	n.m.	DPE-5	n.a.	7.02	6.29	
MW-520	13.31	8/19/2020	n.m.	n.m.	DPE-5	n.a.	8.21	5.1	
MW-520	13.31	9/2/2020	n.m.	n.m.	DPE-5	n.a.	8.22	5.09	
MW-521	12.18	3/8/2018	n.m.	n.m.	DPE-5	n.a.	6.71	5.47	
MW-521	12.18	3/14/2018	n.m.	n.m.	DPE-5	n.a.	6.59	5.59	
MW-521	12.18	5/29/2018	n.m.	n.m.	DPE-5	n.a.	6.90	5.28	
MW-521	12.18	6/18/2018	n.m.	n.m.	DPE-5	n.a.	6.87	5.31	SVE off
MW-521	12.18	7/19/2018	n.m.	n.m.	DPE-5	n.a.	6.71	5.47	
MW-521	12.18	8/7/2018	n.m.	n.m.	DPE-5	n.a.	6.95	5.23	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-521	12.18	10/26/2018	n.m.	n.m.	DPE-5	n.a.	6.61	5.57	
MW-521	12.18	11/13/2018	n.m.	n.m.	DPE-5	n.a.	6.80	5.38	
MW-521	12.18	1/29/2019	n.m.	n.m.	DPE-5	n.a.	6.39	5.79	
MW-521	12.18	2/21/2019	n.m.	n.m.	DPE-5	n.a.	6.11	6.07	
MW-521	12.18	3/14/2019	n.m.	n.m.	DPE-5	n.a.	6.71	5.47	
MW-521	12.18	4/11/2019	n.m.	n.m.	DPE-5	n.a.	6.11	6.07	
MW-521	12.18	5/9/2019	n.m.	n.m.	DPE-5	n.a.	6.95	5.23	
MW-521	12.18	6/6/2019	n.m.	n.m.	DPE-5	n.a.	6.94	5.24	
MW-521	12.18	8/1/2019	n.m.	n.m.	DPE-5	n.a.	6.61	5.57	DPE system expansion baseline event before system startup - System off
MW-521	12.18	8/15/2019	n.m.	n.m.	DPE-5	n.a.	6.70	5.48	
MW-521	12.18	8/21/2019	n.m.	n.m.	DPE-5	n.a.	6.98	5.20	
MW-521	12.18	9/24/2019	n.m.	n.m.	DPE-5	n.a.	6.82	5.36	
MW-521	12.18	2/24/2020	n.m.	n.m.	DPE-5	n.a.	6.81	5.37	
MW-521	12.18	2/28/2020	n.m.	n.m.	DPE-5	n.a.	7.14	5.04	
MW-521	12.18	3/18/2020	n.m.	n.m.	DPE-5	n.a.	6.76	5.42	
MW-521	12.18	4/17/2020	n.m.	n.m.	DPE-5	n.a.	7.15	5.03	
MW-521	12.18	5/19/2020	n.m.	n.m.	DPE-5	n.a.	6.62	5.56	
MW-521	12.18	8/19/2020	n.m.	n.m.	DPE-5	n.a.	7.12	5.06	
MW-521	12.18	9/2/2020	n.m.	n.m.	DPE-5	n.a.	7.13	5.05	
MW-525	12.62	11/28/2017	n.m.	n.m.	DPE-4	5	5.75	6.87	DPE system baseline event before system startup - System off
MW-525	12.62	11/30/2017	n.m.	n.m.	DPE-4	5	8.16	4.46	DPE system testing
MW-525	12.62	12/1/2017	n.m.	n.m.	DPE-4	5	9.81	2.81	DPE system startup (groundwater extraction only)
MW-525	12.62	12/5/2017	n.m.	n.m.	DPE-4	5	10.12	2.50	
MW-525	12.62	12/13/2017	n.m.	n.m.	DPE-4	5	9.92	2.70	
MW-525	12.62	12/13/2017	n.m.	n.m.	DPE-4	5	9.96	2.66	
MW-525	12.62	12/14/2017	n.m.	n.m.	DPE-4	5	10.34	2.28	
MW-525	12.62	12/20/2017	n.m.	n.m.	DPE-4	5	8.93	3.69	
MW-525	12.62	12/27/2017	n.m.	n.m.	DPE-4	5	10.50	2.12	
MW-525	12.62	1/5/2018	n.m.	n.m.	DPE-4	5	9.46	3.16	
MW-525	12.62	1/9/2018	n.m.	n.m.	DPE-4	5	9.72	2.90	
MW-525	12.62	1/18/2018	n.m.	n.m.	DPE-4	5	9.10	3.52	
MW-525	12.62	1/24/2018	n.m.	n.m.	DPE-4	5	9.21	3.41	
MW-525	12.62	2/1/2018	n.m.	n.m.	DPE-4	5	9.73	2.89	
MW-525	12.62	2/8/2018	n.m.	n.m.	DPE-4	5	9.66	2.96	
MW-525	12.62	2/13/2018	n.m.	n.m.	DPE-4	5	9.93	2.69	SVE off
MW-525	12.62	2/20/2018	n.m.	n.m.	DPE-4	5	9.86	2.76	
MW-525	12.62	2/28/2018	n.m.	n.m.	DPE-4	5	10.69	1.93	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-525	12.62	3/8/2018	n.m.	n.m.	DPE-4	5	9.93	2.69	
MW-525	12.62	3/14/2018	n.m.	n.m.	DPE-4	5	9.80	2.82	
MW-525	12.62	5/29/2018	n.m.	n.m.	DPE-4	5	9.89	2.73	
MW-525	12.62	6/18/2018	n.m.	n.m.	DPE-4	5	10.84	1.78	SVE off
MW-525	12.62	7/19/2018	n.m.	n.m.	DPE-4	5	10.44	2.18	
MW-525	12.62	8/7/2018	n.m.	n.m.	DPE-4	5	7.26	5.36	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-525	12.62	10/26/2018	n.m.	n.m.	DPE-4	5	9.08	3.54	
MW-525	12.62	11/13/2018	n.m.	n.m.	DPE-4	5	9.65	2.97	
MW-525	12.62	1/29/2019	n.m.	n.m.	DPE-4	5	9.10	3.52	
MW-525	12.62	2/21/2019	n.m.	n.m.	DPE-4	5	9.59	3.03	
MW-525	12.62	3/14/2019	n.m.	n.m.	DPE-4	5	9.70	2.92	
MW-525	12.62	4/11/2019	n.m.	n.m.	DPE-4	5	9.14	3.48	
MW-525	12.62	5/9/2019	n.m.	n.m.	DPE-4	5	9.49	3.13	
MW-525	12.62	6/6/2019	n.m.	n.m.	DPE-4	5	9.80	2.82	
MW-525	12.62	8/1/2019	n.m.	n.m.	DPE-4	5	6.60	6.02	DPE system expansion baseline event before system startup - System off
MW-525	12.62	8/15/2019	n.m.	n.m.	DPE-4	5	6.71	5.91	
MW-525	12.62	8/21/2019	n.m.	n.m.	DPE-4	5	9.16	3.46	
MW-525	12.62	9/24/2019	n.m.	n.m.	DPE-4	5	9.78	2.84	
MW-525	12.62	2/24/2020	n.m.	n.m.	DPE-4	5	9.71	2.91	
MW-525	12.62	2/28/2020	n.m.	n.m.	DPE-4	5	10.08	2.54	
MW-525	12.62	3/18/2020	n.m.	n.m.	DPE-4	5	9.51	3.11	
MW-525	12.62	4/17/2020	n.m.	n.m.	DPE-4	5	9.89	2.73	
MW-525	12.62	5/19/2020	n.m.	n.m.	DPE-4	5	9.20	3.42	
MW-525	12.62	8/19/2020	n.m.	n.m.	DPE-4	5	9.50	3.12	
MW-525	12.62	9/2/2020	n.m.	n.m.	DPE-4	5	9.65	2.97	
MW-526	12.90	11/28/2017	n.m.	n.m.	DPE-11	10	5.03	7.87	DPE system baseline event before system startup - System off
MW-526	12.90	11/30/2017	n.m.	n.m.	DPE-11	10	5.69	7.21	DPE system testing
MW-526	12.90	12/1/2017	n.m.	n.m.	DPE-11	10	6.24	6.66	DPE system startup (groundwater extraction only) - DPE-11 off
MW-526	12.90	12/5/2017	n.m.	n.m.	DPE-11	10	5.45	7.45	DPE-11 off
MW-526	12.90	12/13/2017	n.m.	n.m.	DPE-11	10	5.98	6.92	DPE-11 repaired
MW-526	12.90	12/13/2017	n.m.	n.m.	DPE-11	10	6.06	6.84	
MW-526	12.90	12/14/2017	n.m.	n.m.	DPE-11	10	5.97	6.93	
MW-526	12.90	12/20/2017	n.m.	n.m.	DPE-11	10	6.12	6.78	
MW-526	12.90	12/27/2017	n.m.	n.m.	DPE-11	10	6.18	6.72	
MW-526	12.90	1/5/2018	n.m.	n.m.	DPE-11	10	6.04	6.86	
MW-526	12.90	1/9/2018	n.m.	n.m.	DPE-11	10	6.15	6.75	
MW-526	12.90	1/18/2018	n.m.	n.m.	DPE-11	10	6.00	6.90	
MW-526	12.90	1/24/2018	n.m.	n.m.	DPE-11	10	6.18	6.72	
MW-526	12.90	2/1/2018	n.m.	n.m.	DPE-11	10	5.99	6.91	
MW-526	12.90	2/8/2018	n.m.	n.m.	DPE-11	10	5.42	7.48	DPE-11 off
MW-526	12.90	2/13/2018	n.m.	n.m.	DPE-11	10	5.52	7.38	SVE off
MW-526	12.90	2/20/2018	n.m.	n.m.	DPE-11	10	5.80	7.10	
MW-526	12.90	2/28/2018	n.m.	n.m.	DPE-11	10	5.80	7.1	DPE-11 off
MW-526	12.90	3/8/2018	n.m.	n.m.	DPE-11	10	5.60	7.3	DPE-11 off
MW-526	12.90	3/14/2018	n.m.	n.m.	DPE-11	10	5.53	7.37	DPE-11 off
MW-526	12.90	5/29/2018	n.m.	n.m.	DPE-11	10	6.42	6.48	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-526	12.90	6/18/2018	n.m.	n.m.	DPE-11	10	6.19	6.71	SVE off
MW-526	12.90	7/19/2018	n.m.	n.m.	DPE-11	10	6.61	6.29	
MW-526	12.90	8/7/2018	n.m.	n.m.	DPE-11	10	7.40	5.5	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-526	12.90	10/26/2018	n.m.	n.m.	DPE-11	10	5.85	7.05	
MW-526	12.90	11/13/2018	n.m.	n.m.	DPE-11	10	6.23	6.67	
MW-526	12.90	1/29/2019	n.m.	n.m.	DPE-11	10	5.56	7.34	
MW-526	12.90	2/21/2019	n.m.	n.m.	DPE-11	10	5.11	7.79	
MW-526	12.90	3/14/2019	n.m.	n.m.	DPE-11	10	5.76	7.14	
MW-526	12.90	4/11/2019	n.m.	n.m.	DPE-11	10	5.69	7.21	
MW-526	12.90	5/9/2019	n.m.	n.m.	DPE-11	10	6.15	6.75	
MW-526	12.90	6/6/2019	n.m.	n.m.	DPE-11	10	6.25	6.65	
MW-526	12.90	8/1/2019	n.m.	n.m.	DPE-11	10	5.64	7.26	DPE system expansion baseline event before system startup - System off
MW-526	12.90	8/15/2019	n.m.	n.m.	DPE-11	10	5.65	7.25	
MW-526	12.90	8/21/2019	n.m.	n.m.	DPE-11	10	5.77	7.13	
MW-526	12.90	9/24/2019	n.m.	n.m.	DPE-11	10	6.13	6.77	
MW-526	12.90	2/24/2020	n.m.	n.m.	DPE-11	10	5.76	7.14	
MW-526	12.90	2/28/2020	n.m.	n.m.	DPE-11	10	6.03	6.87	
MW-526	12.90	3/18/2020	n.m.	n.m.	DPE-11	10	5.81	7.09	
MW-526	12.90	4/17/2020	n.m.	n.m.	DPE-11	10	5.99	6.91	
MW-526	12.90	5/19/2020	n.m.	n.m.	DPE-11	10	6.02	6.88	
MW-526	12.90	8/19/2020	n.m.	n.m.	DPE-11	10	6.08	6.82	
MW-526	12.90	9/2/2020	n.m.	n.m.	DPE-11	10	6.20	6.7	
MW-531	13.26	11/28/2017	n.m.	n.m.	DPE-5	30	6.74	6.52	DPE system baseline event before system startup - System off
MW-531	13.26	11/30/2017	n.m.	n.m.	DPE-5	30	6.64	6.62	DPE system testing
MW-531	13.26	12/1/2017	n.m.	n.m.	DPE-5	30	6.76	6.50	DPE system startup (groundwater extraction only)
MW-531	13.26	12/5/2017	n.m.	n.m.	DPE-5	30	7.40	5.86	
MW-531	13.26	12/13/2017	n.m.	n.m.	DPE-5	30	7.99	5.27	
MW-531	13.26	12/13/2017	n.m.	n.m.	DPE-5	30	7.97	5.29	
MW-531	13.26	12/14/2017	n.m.	n.m.	DPE-5	30	8.04	5.22	
MW-531	13.26	12/20/2017	n.m.	n.m.	DPE-5	30	7.36	5.90	
MW-531	13.26	12/27/2017	n.m.	n.m.	DPE-5	30	#N/A	#N/A	Not Gauged
MW-531	13.26	1/5/2018	n.m.	n.m.	DPE-5	30	7.54	5.72	
MW-531	13.26	1/9/2018	n.m.	n.m.	DPE-5	30	6.89	6.37	
MW-531	13.26	1/18/2018	n.m.	n.m.	DPE-5	30	6.72	6.54	
MW-531	13.26	1/24/2018	n.m.	n.m.	DPE-5	30	6.49	6.77	
MW-531	13.26	2/1/2018	n.m.	n.m.	DPE-5	30	7.10	6.16	
MW-531	13.26	2/8/2018	n.m.	n.m.	DPE-5	30	7.40	5.86	
MW-531	13.26	2/13/2018	n.m.	n.m.	DPE-5	30	7.81	5.45	SVE off
MW-531	13.26	2/20/2018	n.m.	n.m.	DPE-5	30	7.84	5.42	
MW-531	13.26	2/28/2018	n.m.	n.m.	DPE-5	30	8.10	5.16	
MW-531	13.26	3/8/2018	n.m.	n.m.	DPE-5	30	7.79	5.47	
MW-531	13.26	3/14/2018	n.m.	n.m.	DPE-5	30	7.65	5.61	
MW-531	13.26	5/29/2018	n.m.	n.m.	DPE-5	30	9.97	3.29	
MW-531	13.26	6/18/2018	n.m.	n.m.	DPE-5	30	7.93	5.33	SVE off
MW-531	13.26	7/19/2018	n.m.	n.m.	DPE-5	30	7.79	5.47	
MW-531	13.26	8/7/2018	n.m.	n.m.	DPE-5	30	7.80	5.46	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-531	13.26	10/26/2018	n.m.	n.m.	DPE-5	30	7.69	5.57	
MW-531	13.26	11/13/2018	n.m.	n.m.	DPE-5	30	8.08	5.18	
MW-531	13.26	1/29/2019	n.m.	n.m.	DPE-5	30	7.19	6.07	
MW-531	13.26	2/21/2019	n.m.	n.m.	DPE-5	30	7.10	6.16	
MW-531	13.26	3/14/2019	n.m.	n.m.	DPE-5	30	7.78	5.48	
MW-531	13.26	4/11/2019	n.m.	n.m.	DPE-5	30	7.09	6.17	
MW-531	13.26	5/9/2019	n.m.	n.m.	DPE-5	30	7.95	5.31	
MW-531	13.26	6/6/2019	n.m.	n.m.	DPE-5	30	7.95	5.31	
MW-531	13.26	8/1/2019	n.m.	n.m.	DPE-5	30	7.66	5.6	DPE system expansion baseline event before system startup - System off
MW-531	13.26	8/15/2019	n.m.	n.m.	DPE-5	30	7.76	5.5	
MW-531	13.26	8/21/2019	n.m.	n.m.	DPE-5	30	8.02	5.24	
MW-531	13.26	9/24/2019	n.m.	n.m.	DPE-5	30	7.87	5.39	
MW-531	13.26	2/24/2020	n.m.	n.m.	DPE-5	30	7.88	5.38	
MW-531	13.26	2/28/2020	n.m.	n.m.	DPE-5	30	8.21	5.05	
MW-531	13.26	3/18/2020	n.m.	n.m.	DPE-5	30	8.81	4.45	
MW-531	13.26	4/17/2020	n.m.	n.m.	DPE-5	30	8.21	5.05	
MW-531	13.26	5/19/2020	n.m.	n.m.	DPE-5	30	7.68	5.58	
MW-531	13.26	8/19/2020	n.m.	n.m.	DPE-5	30	8.18	5.08	
MW-531	13.26	9/2/2020	n.m.	n.m.	DPE-5	30	8.18	5.08	
MW-532	13.38	11/28/2017	n.m.	n.m.	DPE-2	8	6.45	6.93	DPE system baseline event before system startup - System off
MW-532	13.38	11/30/2017	n.m.	n.m.	DPE-2	8	7.22	6.16	DPE system testing
MW-532	13.38	12/1/2017	n.m.	n.m.	DPE-2	8	8.49	4.89	DPE system startup (groundwater extraction only)
MW-532	13.38	12/5/2017	n.m.	n.m.	DPE-2	8	9.94	3.44	
MW-532	13.38	12/13/2017	n.m.	n.m.	DPE-2	8	11.36	2.02	
MW-532	13.38	12/13/2017	n.m.	n.m.	DPE-2	8	10.32	3.06	
MW-532	13.38	12/14/2017	n.m.	n.m.	DPE-2	8	10.40	2.98	
MW-532	13.38	12/20/2017	n.m.	n.m.	DPE-2	8	9.20	4.18	
MW-532	13.38	12/27/2017	n.m.	n.m.	DPE-2	8	10.03	3.35	
MW-532	13.38	1/5/2018	n.m.	n.m.	DPE-2	8	8.86	4.52	
MW-532	13.38	1/9/2018	n.m.	n.m.	DPE-2	8	8.69	4.69	
MW-532	13.38	1/18/2018	n.m.	n.m.	DPE-2	8	8.33	5.05	
MW-532	13.38	1/24/2018	n.m.	n.m.	DPE-2	8	7.85	5.53	
MW-532	13.38	2/1/2018	n.m.	n.m.	DPE-2	8	9.94	3.44	
MW-532	13.38	2/8/2018	n.m.	n.m.	DPE-2	8	9.39	3.99	
MW-532	13.38	2/13/2018	n.m.	n.m.	DPE-2	8	9.55	3.83	SVE off
MW-532	13.38	2/20/2018	n.m.	n.m.	DPE-2	8	9.14	4.24	
MW-532	13.38	2/28/2018	n.m.	n.m.	DPE-2	8	9.70	3.68	
MW-532	13.38	3/8/2018	n.m.	n.m.	DPE-2	8	10.06	3.32	
MW-532	13.38	3/14/2018	n.m.	n.m.	DPE-2	8	9.62	3.76	
MW-532	13.38	5/29/2018	n.m.	n.m.	DPE-2	8	9.08	4.30	
MW-532	13.38	6/18/2018	n.m.	n.m.	DPE-2	8	9.75	3.63	SVE off
MW-532	13.38	7/19/2018	n.m.	n.m.	DPE-2	8	9.20	4.18	
MW-532	13.38	8/7/2018	n.m.	n.m.	DPE-2	8	8.30	5.08	
MW-532	13.38	10/26/2018	n.m.	n.m.	DPE-2	8	8.58	4.80	
MW-532	13.38	11/13/2018	n.m.	n.m.	DPE-2	8	9.28	4.10	
MW-532	13.38	1/29/2019	n.m.	n.m.	DPE-2	8	8.27	5.11	

Table 4-6
 Observation Well Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Well ID	Casing Elevation	Date	Time	Induced Vacuum	Closest DPE Well	Distance to DPE Well	Depth to Water	Groundwater Elevation	Comments
	ft NAVD88	mm/dd/yy	hh:mm ¹	in H ₂ O	DPE-X	feet	ft btoc	ft NAVD88	Notes
MW-532	13.38	2/21/2019	n.m.	n.m.	DPE-2	8	8.77	4.61	
MW-532	13.38	3/14/2019	n.m.	n.m.	DPE-2	8	8.29	5.09	
MW-532	13.38	4/11/2019	n.m.	n.m.	DPE-2	8	7.49	5.89	
MW-532	13.38	5/9/2019	n.m.	n.m.	DPE-2	8	8.88	4.50	
MW-532	13.38	6/6/2019	n.m.	n.m.	DPE-2	8	9.10	4.28	
MW-532	13.38	8/1/2019	n.m.	n.m.	DPE-2	8	7.64	5.74	DPE system expansion baseline event before system startup - System off
MW-532	13.38	8/15/2019	n.m.	n.m.	DPE-2	8	7.73	5.65	
MW-532	13.38	8/21/2019	n.m.	n.m.	DPE-2	8	8.62	4.76	
MW-532	13.38	9/24/2019	n.m.	n.m.	DPE-2	8	9.60	3.78	
MW-532	13.38	2/24/2020	n.m.	n.m.	DPE-2	8	9.08	4.3	
MW-532	13.38	2/28/2020	n.m.	n.m.	DPE-2	8	9.45	3.93	
MW-532	13.38	3/18/2020	n.m.	n.m.	DPE-2	8	8.89	4.49	
MW-532	13.38	4/17/2020	n.m.	n.m.	DPE-2	8	9.58	3.8	
MW-532	13.38	5/19/2020	n.m.	n.m.	DPE-2	8	8.90	4.48	
MW-532	13.38	8/19/2020	n.m.	n.m.	DPE-2	8	9.76	3.62	
MW-532	13.38	9/2/2020	n.m.	n.m.	DPE-2	8	9.52	3.86	
MW-E-R	14.30	8/1/2019	n.m.	n.m.	DPE-17	9	7.13	7.17	DPE system expansion baseline event before system startup - System off
MW-E-R	14.30	8/15/2019	n.m.	n.m.	DPE-17	9	9.33	4.97	
MW-E-R	14.30	8/21/2019	n.m.	n.m.	DPE-17	9	9.46	4.84	
MW-E-R	14.30	9/24/2019	n.m.	n.m.	DPE-17	9	9.54	4.76	
MW-E-R	14.30	2/24/2020	n.m.	n.m.	DPE-17	9	9.12	5.18	
MW-E-R	14.30	2/28/2020	n.m.	n.m.	DPE-17	9	9.22	5.08	
MW-E-R	14.30	3/18/2020	10:42	6.0	DPE-17	9	8.61	5.69	
MW-E-R	14.30	4/17/2020	12:17	3.8	DPE-17	9	9.85	4.45	
MW-E-R	14.30	5/19/2020	13:20	1.3	DPE-17	9	9.25	5.05	
MW-E-R	14.30	8/19/2020	15:50	n.m.	DPE-17	9	9.88	4.42	
MW-E-R	14.30	9/2/2020	10:04	n.m.	DPE-17	9	9.49	4.81	

Table 4-7
 Catalytic Oxidizer Data
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Date	Time	CatOx Total Operating Hours ^{2.}	VCV Valve Opening	CatOx Inlet Temperature (Meter TT-1901)	Heater Settings CatOx Inlet Set Temperature	CatOx Outlet Temperature (Meter TT-1902)	VOCs Inlet Concentration ^{3.}	VOCs Outlet Concentration ^{3.}	Destruction Efficiency ^{4.}	Discharge Vapor Laboratory Sample
PSCAA Permit 29892 Effluent Limitations	--	--	--	> 600 °F	--	< 1,200 °F	--	--	• 98.5% if > 2,000 ppm • 97% if > 200 ppm • 90% if ≥ 100 ppm • < 10 ppm for influent < 100 ppm	--
mm/dd/yy	hh:mm ^{1.}	hours	% open to process	°F	°F	°F	ppmv	ppmv	%	Y/N
DPE System Soil Vapor Extraction Testing: 12/05/17										
DPE System Soil Vapor Extraction Start-up: 12/11/17										
12.13.17	12:15	57	100	624	625	714	378.80	0.5	99.9	N
12.13.17	16:12	61	100	624	625	708	364.60	0.6	99.8	N
12.14.17	10:20	79	100	624	625	688	308.20	0.1	100.0	Y
12.20.17	16:30	164	100	624	625	658	177.50	0.0	100.0	Y
12.27.17	13:20	260	100	624	625	641	129.80	0.3	99.8	Y
01.05.18	17:15	361	100	624	625	640	121.90	0.0	100.0	N
01.09.18	17:25	372	100	625	625	638	95.20	0.0	100.0	N
1/18/2018	15:05	447	100	625	625	632	44.10	0.0	100.0	N
1/25/2018	11:00	--	100	625	625	630	39.00	0.0	100.0	N
2/1/2018	11:25	684	100	626	625	630	25.90	0.0	100.0	N
2/8/2018	10:20	767	100	624	625	628	17.10	0.0	100.0	N
2/16/2018	12:45	894	100	624	625	733	172.60	0.1	99.9	N
2/20/2018	14:50	928	100	624	625	626	39.10	0.0	100.0	Y
2/28/2018	14:45	1,050	100	624	625	628	22.20	0.0	100.0	N
3/8/2018	12:35	1,164	100	625	625	629	18.10	0.0	100.0	N
3/14/2018	13:00	1,288	100	624	625	629	10.10	0.2	98.0	Y
5/8/2018	15:00	1,303	100	626	625	632	6.80	0.1	98.5	N
5/17/2018	17:00	1,477	100	624	625	629	5	0.0	100.0	Y
5/23/2018	17:15	1,624	100	625	625	633	11.1	0.0	100.0	N
5/29/2018	16:42	1,764	100	624	625	629	38.4	0.0	100.0	N
6/7/2018	17:15	1,847	100	624	625	632	26.3	0.0	100.0	N
6/15/2018	14:55	1,946	100	624	625	628	22	0.0	100.0	N
7/5/2018	14:00	2,142	100	627	625	628	17	0.0	100.0	N
7/11/2018	15:00	2,287	100	626	625	629	38	0.0	100.0	N
7/19/2018	15:20	2,303	100	627	625	625	27	0.0	100.0	N
7/26/2018	14:45	2,434	100	626	625	630	21	0.0	100.0	Y
8/3/2018	15:45	2,529	100	626	625	628	23	0.0	100.0	N
8/7/2018	13:00	2,623	100	626	625	628	22	0.0	100.0	N
8/15/2018	15:00	2,793	100	627	625	627	21	0.0	100.0	N
10/18/2018	16:15	2,797	100	625	625	625	30.1	0.0	100.0	Y
10/26/2018	16:45	2,816	100	625	625	625	10.1	0.0	100.0	N
11/7/2018	16:45	2,819	100	624	625	623	18.0	0.1	99.4	N
11/13/2018	14:25	2,922	100	626	625	620	17.5	0.0	100.0	N
11/21/2018	14:50	3,016	100	625	625	628	3.8	0.0	100.0	N
9/23/2019	16:53	3,239	100	624	624	623	25.1	0.8	96.8	N

Table 4-7
Catalytic Oxidizer Data
Former Unocal Edmonds Bulk Fuel Terminal
11720 Unoco Road
Edmonds, Washington

Date	Time	CatOx Total Operating Hours ²	VCV Valve Opening	CatOx Inlet Temperature (Meter TT-1901)	Heater Settings CatOx Inlet Set Temperature	CatOx Outlet Temperature (Meter TT-1902)	VOCs Inlet Concentration ³	VOCs Outlet Concentration ³	Destruction Efficiency ⁴	Discharge Vapor Laboratory Sample
PSCAA Permit 29892 Effluent Limitations	--	--	--	> 600 °F	--	< 1,200 °F	--	--	<ul style="list-style-type: none"> • 98.5% if > 2,000 ppm • 97% if > 200 ppm • 90% if ≥ 100 ppm • < 10 ppm for influent < 100 ppm 	--
mm/dd/yy	hh:mm ¹	hours	% open to process	°F	°F	°F	ppmv	ppmv	%	Y/N
2/13/2020	10:50	3,315	100	624	624	610	7.7	0.0	100.0	N
2/28/2020	17:40	3,315	100	623	623	611	7.8	0.0	100.0	N
3/4/2020	11:43	3,723	100	624	624	612	6.2	0.0	100.0	N
3/18/2020	15:50	3,778	100	624	624	613	5.9	0.0	100.0	N
3/31/2020	13:35	3,905	100	624	624	612	1.2	0.0	100.0	N
4/6/2020	13:30	4,048	100	625	624	613	3.2	0.0	100.0	N
4/17/2020	16:10	4,213	100	624	624	613	5.8	0.0	100.0	Y
4/20/2020	14:00	4,268	100	623	623	610	4.5	0.0	100.0	N
5/1/2020	16:40	4,445	100	625	625	612	2.6	0.1	96.2	N
5/6/2020	14:40	4,535	100	624	626	614	2.4	0.0	100.0	N
5/13/2020	11:40	4,571	100	626	625	612	1.5	0.0	100.0	N
5/19/2020	13:40	4,680	100	624	624	610	1.7	0.0	100.0	N
5/26/2020	14:20	4,746	100	624	622	610	0.0	0.0	100.0	N
6/6/2020	14:30	4,885	100	623	623	613	3.6	0.0	100.0	N
7/1/2020	17:10	4,909	100	623	623	612	0.6	0.0	100.0	N
7/10/2020	10:45	5,094	100	624	626	613	6.5	0.0	100.0	N
8/7/2020	14:00	#N/A	100	626	626	612	1.2	0.0	100.0	N
8/10/2020	10:25	5,225	100	626	626	612	3.5	0.0	100.0	N
8/19/2020	14:00	5,433	0	626	626	608	0.0	0.0	#NA	N
8/26/2020	12:10	#NA	0	#NA	#NA	#NA	#NA	#NA	#NA	N
9/2/2020	9:30	5,435	0	#NA	#NA	#NA	#NA	#NA	#NA	N

Data Sheet Name	Notes
Table 4-1 Groundwater Extraction Data	¹ hh:mm in data sheets is reported in 24 hour format. Date of the flow reading, sample collected and sent to the laboratory for analysis within 24 hours of flow reading. ² % LEL should remain below 10 % ³ Groundwater extraction wells includes DPE-1, DPE-2, DPE-3, DPE-4, DPE-5, DPE-6, DPE-7, DPE-8, DPE-9, DPE-10, DPE-11, DPE-12, DPE-13, DPE-14, DPE-15, DPE-16, DPE-17 and DPE-18. ⁴ Soil vapor extraction wells includes DPE-1, DPE-2, DPE-3, DPE-4, DPE-5, DPE-6, DPE-7, DPE-8, DPE-9, DPE-10, DPE-11, DPE-12, DPE-13, DPE-14, DPE-15, DPE-16, DPE-17, DPE-18, SVE-1 and SVE-2. ⁵ Groundwater Extracted Volume (calculated per period) = Groundwater Extracted Volume Reading Period P - Groundwater Extracted Volume Reading Period P-1 ⁶ The totalizer FT7001 initial reading pre-activities was 1,414.98 gallons DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction gal = gallons gpm = gallons per minute LEL = lower explosive level #N/A = not applicable, not available NPDES = National Pollutant Discharge Elimination System SVE well = soil vapor extraction well; remediation well used for soil vapor extraction % = percent
Table 4-2 Vapor Extraction Data	¹ hh:mm in data sheets is reported in 24 hour format ² The SVE system comprises three blowers (701, 702 and 703) inducing vacuum to extract the soil vapors at each DPE and SVE well ³ Post-blower VOCs concentration measured in the field by photoionization detector (PID) reading ⁴ Lower explosive limit measured in the field by 4-gas multi-meter reading ⁵ Post-blower GRO concentration analysed by Method United States Environmental Protection Agency TO-15 by Test America Laboratories, Inc. in Tacoma, Washington ⁶ VOCs mass removal rate calculated using PID reading Mass Removal Rate = flowrate * time * concentration * molecular weight * molar density of air $\text{Period VOCs Mass Removal Rate} = (\text{SVE System Flow Rate [scfm]} \times 60 [\text{min}] \times 24 [\text{hr}]) \times \left(\frac{\text{Post-Blower VOCs Concentration [ppmv]}}{10^6} \right) \times \frac{86.2 \left[\frac{\text{lbs}}{\text{mol}} \right]}{379 \left[\frac{\text{lbmol}}{\text{scf}} \right]}$ VOCs (as Hexane) molecular weight = 86.2 lb / [lb mol]. Molar density of air = 379 lb mol / scf. min = minute lb mol = pound per mole hr = hour scfm = standard cubic feet per minute lb = pound scf = standard cubic feet ⁷ Total days of discharge in period (see Date and Time). Period Discharge Time = maximum blower operating period / 24 ⁸ Cumulative VOCs mass removed calculated using PID reading Cumulative Mass Removed = mass removal rate * time + previous cumulative mass removed $\text{Cumulative VOCs Mass Removed} = \text{Period VOCs Mass Removal Rate} \left[\frac{\text{lbs}}{\text{day}} \right] \times \text{Period Discharge Time [day]} + \text{previous Cumulative VOCs Mass Removed [lbs]}$ lb = pound ⁹ F = degrees Fahrenheit GRO = Total petroleum hydrocarbons - gasoline range organics. in Hg = inches mercury in H ₂ O = inches water Lab. = Laboratory lbs = pounds lbs/day = pounds per day #N/A = not applicable, not available PID = photoionization detector ppmv = parts per million vapor scfm = standard cubic feet per minute SVE = soil vapor extraction VOCs = volatile organic compounds % = percent

Data Sheet Name	Notes
Table 4-3 Vapor Extraction Data - Laboratory Data and Mass Removal	<p>¹ hh:mm in data sheets is reported in 24 hour format</p> <p>² GRO concentration analysed by Method United States Environmental Protection Agency TO-15 by Test America Laboratories, Inc. in Tacoma, Washington</p> <p>³ GRO mass removal rate calculated using laboratory concentration</p> <p>Mass Removal Rate= flowrate * time * concentration * molecular weight * molar density of air</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\text{GRO Mass Removal Rate} = (\text{SVE System Flow Rate [scfm]} \times 60 [\text{min}] \times 24 [\text{hr}]) \times \left(\frac{\text{GRO Concentration [ppmv]}}{10^6} \right) \times \frac{100 \left[\frac{\text{lbs}}{\text{mol}} \right]}{379 \left[\frac{\text{lbmol}}{\text{scf}} \right]}$ </div> <p>GRO molecular weight = 100 lb / [lb mol]. min = minute hr = hour lb = pound</p> <p>Molar density of air = 379 lb mol / scf. lb mol = pound per mole scfm = standard cubic feet per minute scf = standard cubic feet</p> <p>⁴ Cumulative GRO mass removed calculated using laboratory concentration</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\text{Cumulative GRO Mass Removed} = (\text{Average (Period GRO Mass Removal Rate} \left[\frac{\text{lbs}}{\text{day}} \right] + \text{Previous Period GRO Mass Removal Rate} \left[\frac{\text{lbs}}{\text{day}} \right]) \times \frac{\Delta \text{discharge hours}}{24} + \text{Cumulative GRO Mass Removed Previous Period [lbs]}$ </div> <p>lb = pound</p> <p>⁵ Benzene concentration analysed by Method United States Environmental Protection Agency TO-15 by Test America Laboratories, Inc. in Tacoma, Washington</p> <p>⁶ Benzene mass removal rate calculated using laboratory concentration</p> <p>Mass Removal Rate= flowrate * time * concentration * molecular weight * molar density of air</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\text{Benzene Mass Removal Rate} = (\text{SVE System Flow Rate [scfm]} \times 60 [\text{min}] \times 24 [\text{hr}]) \times \left(\frac{\text{Benzene Concentration [ppmv]}}{10^6} \right) \times \frac{78.11 \left[\frac{\text{lbs}}{\text{mol}} \right]}{379 \left[\frac{\text{lbmol}}{\text{scf}} \right]}$ </div> <p>Benzene molecular weight = 78.11 lb / [lb mol]. min = minute hr = hour lb = pound</p> <p>Molar density of air = 379 lb mol / scf. lb mol = pound per mole scfm = standard cubic feet per minute scf = standard cubic feet</p> <p>⁷ Cumulative benzene mass removed calculated using laboratory concentration</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\text{Cumulative Benzene Mass Removed} = (\text{Average (Period Benzene Mass Removal Rate} \left[\frac{\text{lbs}}{\text{day}} \right] + \text{Previous Period Benzene Mass Removal Rate} \left[\frac{\text{lbs}}{\text{day}} \right]) \times \frac{\Delta \text{discharge hours}}{24} + \text{Cumulative Benzene Mass Removed Previous Period [lbs]}$ </div> <p>lb = pound</p> <p>GRO = Total petroleum hydrocarbons - gasoline range organics. lbs = pounds lbs/day = pounds per day ppmv = parts per million vapor scfm = standard cubic feet per minute SVE = soil vapor extraction</p>

Data Sheet Name	Notes
Table 4-4 Dual-Phase Extraction Well Groundwater Operational Data	¹ hh:mm in data sheets is reported in 24 hour format ² DPE well depth to water based on transducer readings ³ Totalizer reading at each DPE well ⁴ Instantaneous DPE well groundwater flow rate reads from flowmeter. Grundfos Redi-flo 4 top-loading electric submersible pump. Four new DPE wells were installed in July 2019: DPE-15, DPE-16, DPE-17 and DPE-18. Four wells were deactivated: DPE-2, DPE-8, DPE-9 and DPE-10. *: Start up with new DPE wells DPE-15, 16, 17 and 18 on August 2, 2019. Testing phase of new DPE wells and carbon change out from July 8 through August 2, 2019 DPE-2 : DPE-18 DPE-2 on the HMI is now DPE-18 on the system components and the physical well DPE-2 was last recorded as having pumped 597,961.9 gallons of water on June 6, 2019 DPE-18 began recording gallons pumped at 598,132 gallons of water on August 2, 2019 DPE-8 : DPE-16 DPE-8 on the HMI is now DPE-16 on the system components and the physical well DPE-8 was last recorded as having pumped 296,986.6 gallons of water on June 6, 2019 DPE-16 began recording gallons pumped at 296,534 gallons of water on August 2, 2019 DPE-9 : DPE-17 DPE-9 on the HMI is now DPE-16 on the system components and the physical well DPE-9 was last recorded as having pumped 308,192.5 gallons of water on June 6, 2019 DPE-17 began recording gallons pumped at 309,544 gallons of water on August 2, 2019 DPE-10 : DPE-15 DPE-10 on the HMI is now DPE-16 on the system components and the physical well DPE-10 was last recorded as having pumped 275,539.1 gallons of water on June 6, 2019 DPE-15 began recording gallons pumped at 277,474 gallons of water on August 2, 2019 DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction ft = feet ft btoc = feet below top of casing gal = gallons gpm = gallons per minute #N/A = not applicable, not available NAVD88 = North American Vertical Datum of 1988
Data Sheet Name	Notes
Table 4-5 Dual-Phase Extraction Well Vapor Data	¹ hh:mm in data sheets is reported in 24 hour format ² VOCs concentration measured in the field by photoionization detector (PID) reading ³ SVE well SVE -2 is connected to the individual vapor conveyance line for DPE-13. ⁴ SVE well SVE -1 is connected to the individual vapor conveyance line for DPE-14. ⁵ DPE-12 was decommissioned and DPE-12R was installed approximately four feet to the west on 03/22/18. DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction in Hg = inches mercury ppmv = parts per million vapor #N/A = not applicable, not available SVE = soil vapor extraction
Data Sheet Name	Notes
Table 4-6 Observation Well Data	¹ hh:mm in data sheets is reported in 24 hour format ² Drawdown calculation based on groundwater elevation measured during the DPE system baseline event before system startup on 11/28/17. Drawdown = groundwater elevation - baseline groundwater elevation ³ Drawdown calculation based on average groundwater elevation measured from 10/20/08 to 07/24/17 for MW-519. Drawdown = groundwater elevation - average groundwater elevation DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction ft bbl = feet below baseline ft btoc = feet below top of casing in Hg = inches mercury in H ₂ O = inches water MW = monitoring well; observation well used for DPE system monitoring and groundwater compliance monitoring NAVD88 = North American Vertical Datum of 1988 SVE = soil vapor extraction PZ = piezometer; observation well used for DPE system monitoring

Notes
 Former Unocal Edmonds Bulk Fuel Terminal
 11720 Unoco Road
 Edmonds, Washington

Data Sheet Name	Notes
Table 4-7	¹ hh:mm in data sheets is reported in 24 hour format
Catalytic Oxidizer	² Catalytic Oxidizer (CatOx) total operating hours read on CatOx Panel
Data	³ VOCs concentration measured in the field by photoionization detector (PID) reading
	⁴ Destruction Efficiency = (VOCs Inlet Concentration - VOCs Outlet Concentration)*100 / VOCs Inlet Concentration
	°F = degrees Fahrenheit
	lbs/day = pounds per day
	PID = photoionization detector
	ppm = parts per million
	ppmv = parts per million vapor
	PSCAA = Puget Sound Clean Air Agency
	VOCs = volatile organic compounds
	VCV = Vapor Control Valve
	Y/N = yes/no
	> = superior than
	< = inferior than
	% = percent

Table 4-8
DPE System Treated Water Discharge
Analytical Data and Field Parameters
Former Unocal Terminal
11720 Unoco Road
Edmonds, Washington

Sample Date	Sample Name NPDES Permit No. WA0991007 Discharge Limits	Benzene		cPAHs		Gasoline		Diesel		Heavy Oil	
		16 ug/L		0.05 ug/L		800 ug/L		500 ug/L		500 ug/L	
		ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q
12/01/17	Outfall#002	1	U	0.004	U, J, B, F1	250	U	24	J	250	U, F2
12/05/17	Outfall#002	1	U	0.013	U, *, J, B	250	U	24	J	250	U
12/14/17	Outfall#002	1	U	0.009	U, J, B	250	U	28	J	260	U
12/20/17	Outfall#002	1	U	0.003	U, J, B	250	U	81	J, B	260	U
12/28/17	Outfall#002	1	U	0.032	U	250	U	77	J, B	190	J
01/05/18	Outfall#002	1	U	0.003	U	250	U	100	U	260	U
01/09/18	Outfall#002	1	U	0.003	U	250	U	46	J, B	140	J, B
01/18/18	Outfall#002	2	U	0.009	U, J, B	250	U	58	J, B	130	J, B
01/24/18	Outfall#002	2	U	0.010	U, J, B	250	U	110	U	360	U
02/01/18	Outfall#002	2	U	0.003	U	250	U	110	U	360	U
02/06/18	Outfall#002	1	U	0.007	U, J	250	U	110	U	350	U
02/13/18	Outfall#002	1	U	0.003	U, J, B	250	U	110	U	360	U
02/27/18	Outfall#002	1	U	0.003	U	250	U	110	U	360	U
03/05/18	Outfall#002	1	U	0.004	U, J, B	250	U	110	U	360	U
03/14/18	Outfall#002	1	U	0.003	U	250	U	110	U	360	U
5/9/2018	Outfall#002	1	U	0.003	U	250	U	110	U, *	360	U
05/17/17	Outfall#002	1	U	0.003	J, B	250	U	110	U	350	U
05/23/18	Outfall#002	1	U	0.003	U	250	U	110	U	360	U
05/29/18	Outfall#002	1	U	0.004	U, J, B, F1	250	U	120	U	390	U
06/07/18	Outfall#002	2.9		0.003	U	250	U	120	U	400	U
06/15/18	Outfall#002	1	U	0.009	U, *	250	U	120	U	370	U
06/18/18	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
06/29/18	Outfall#002	1	U	0.009	U, *	100	J	140	U	450	U
07/05/18	Outfall#002	1	U	0.009	U, *	250	U	110	U	360	U
07/11/18	Outfall#002	1	U	0.049	U, *	250	U	120	U	380	U
07/26/18	Outfall#002	1	U, F2	0.046	U, F1, *	250	U	120	U	380	U
08/07/18	Outfall#002	1	U	0.044	U, *	250	U	110	U	190	J
08/15/18	Outfall#002	1	U	0.009	U	250	U	120	U	390	U
08/21/18	Outfall#002	1	U	0.010	U	250	U	130	U	120	J
10/10/18	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
10/18/18	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
10/26/18	Outfall#002	1	U	0.009	U	250	U	130		360	U
11/07/18	Outfall#002	1	U	0.009	U	250	U	76	J, F1	360	F1
11/13/18	Outfall#002	1	U	0.044	U	100	U	250	H, B	420	H
11/21/18	Outfall#002	1	U	0.009	U	250	U	170	B	230	J
12/10/18	Outfall#002	1	U	0.044	U	250	U	110	U	360	U
12/20/18	Outfall#002	1	U	0.044	U	150	J	98	J	210	J

Table 4-8
DPE System Treated Water Discharge
Analytical Data and Field Parameters
Former Unocal Terminal
11720 Unoco Road
Edmonds, Washington

Sample Date	Sample Name	Benzene		cPAHs		Gasoline		Diesel		Heavy Oil	
	NPDES Permit No.	16 ug/L		0.05 ug/L		800 ug/L		500 ug/L		500 ug/L	
	WA0991007 Discharge Limits	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q
12/27/18	Outfall#002	1	U	0.009	U	250	U	91	J	120	J
01/02/19	Outfall#002	1	U	0.009	U	250	U	200		290	J
01/11/19	Outfall#002	1	U	0.009	U, *	250	U	72	J	360	U
01/17/19	Outfall#002	1	U	0.026	U	250	U	120	U, F1, F2	370	U, F1, F2
01/24/19	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
01/29/19	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
02/14/19	Outfall#002	1	U	0.009	U	250	U	120	U	140	J
02/21/19	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
02/26/19	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
03/06/19	Outfall#002	1	U	0.009	U	250	U	120	U	380	U
03/14/19	Outfall#002	1	U	0.009	U	250	U, H	110	U	360	U
03/22/19	Outfall#002	1	U	0.009	U	250	U	130	U	410	U
03/29/19	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
04/02/19	Outfall#002	1	U	0.009	U	250	U	120	U	370	U
04/11/19	Outfall#002	1	U	0.009	U	250	U, *	120	U	370	U
04/17/19	Outfall#002	1	U, X	0.009	U	250	U	110	U	350	U
04/25/19	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
05/02/19	Outfall#002	1	U	0.009	U	250	U	120	U	380	U
05/09/19	Outfall#002	1	U	0.009	U	250	U	120	U	390	U
05/17/19	Outfall#002	1	U	0.010	U	250	U	110	U	360	U
05/23/19	Outfall#002	1	U	0.010	U	250	U	120	U	370	U
05/30/19	Outfall#002	1	U	0.009	U	250	U	120	U	370	U
06/06/19	Outfall#002	1	U	0.009	U	250	U, F1	110	U	360	U
06/12/19	Outfall#002	1	U	0.010	U	250	U, *	110	U	360	U
07/11/19	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
07/18/19	Outfall#002	1	U	0.009	U	250	U, *	110	U	350	U
07/25/19	Outfall#002	1	U	0.009	U	250	U	66	J	110	J
08/01/19	Outfall#002	1	U	0.009	U	250	U	110	U	120	J, B
08/08/19	Outfall#002	1	U	0.009	U	250	U	74	J	140	J
08/15/19	Outfall#002	1	U, F1, F2	0.009	U, J, F1, F2, X	250	U	110	U	360	U
08/21/19	Outfall#002	1	U	0.005	U	250	U	120	U	110	J
08/29/19	Outfall#002	1	U, X	0.006	U, *	250	U	110	U	140	J
09/05/19	Outfall#002	1	U	0.005	U	250	U	110	U	360	U
09/09/19	Outfall#002	1	U	0.006	U, *	250	U	120	U	370	U
09/23/19	Outfall#002	1	U	0.010	U	250	U	110	U	350	U

Table 4-8
DPE System Treated Water Discharge
Analytical Data and Field Parameters
Former Unocal Terminal
11720 Unoco Road
Edmonds, Washington

Sample Date	Sample Name	Benzene		cPAHs		Gasoline		Diesel		Heavy Oil	
	NPDES Permit No.	16 ug/L		0.05 ug/L		800 ug/L		500 ug/L		500 ug/L	
	WA0991007 Discharge Limits	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q
10/04/19	Outfall#002	1	U	0.010	U	250	U, *	120	U	390	U
10/10/19	Outfall#002	1	U	0.010	U	250	U	120	U	370	U
10/17/19	Outfall#002	1	U	0.010	U	250	U	170	H	110	J, H
10/22/19	Outfall#002	1.9		0.010	U	250	U	120	U	380	U
10/31/19	Outfall#002	1	U	0.010	U	250	U	110	U	130	J
11/07/19	Outfall#002	1	U	0.009	U	250	U	110	U	350	U
11/14/19	Outfall#002	3	U	0.010	U	250	U	110	U	360	U
11/21/19	Outfall#002	1	U	0.010	U, H	250	U	120	U	380	U
11/25/19	Outfall#002	1	U	0.009	U	250	U	110	U	97	J
12/02/19	Outfall#002	3	U	0.010	U	250	U	120	U	380	U
12/12/19	Outfall#002	1	U	0.012	U, J, B	250	U	110	U	350	U
12/16/19	Outfall#002	1	U	0.010	U, H, *	250	U	120	U, X	380	U, X
12/23/19	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
01/04/19	Outfall#002	1	U	0.010	U	250	U	120	U	370	U
01/10/20	Outfall#002	1	U	0.010	U	250	U	120	U	380	U
01/17/20	Outfall#002	1	U	0.009	U	250	U	110	U	360	U
01/23/20	Outfall#002	1	U	0.010	U	250	U	120	U	120	J
01/30/20	Outfall#002	1	H	0.010	U	250	U	120	U	390	U
02/06/20	Outfall#002	0.53	U	0.009	U	100	U	69	U	100	U
02/13/20	Outfall#002	0.53	U	0.009	U	100	U	65	U	96	U
02/17/20	Outfall#002	0.53	U	0.009	U	100	U	65	U	96	U
02/28/20	Outfall#002	0.53	U	0.010	U	100	U	69	U	100	U
03/02/20	Outfall#002	0.53	U	0.010	U	100	U	69	U	100	U
03/11/20	Outfall#002	0.53	U	0.010	U	100	U	69	U, H	100	U, H
03/16/20	Outfall#002	0.53	U	0.009	U	100	U	66	U	98	U
03/25/20	Outfall#002	0.53	U	0.010	U	100	U	66	U	97	U
03/30/20	Outfall#002	0.53	U	0.009	U	100	U	65	U, *	97	U, *
04/06/20	Outfall#002	0.24	U	0.023	U, J	100	U, *	79	U	200	J
04/13/20	Outfall#002	0.24	U	0.009	U	100	U	69	U	230	J
04/20/20	Outfall#002	0.24	U	0.010	U	100	U	69	U	100	U
04/27/20	Outfall#002	0.24	U	0.009	U	100	U	67	U	99	U
05/04/20	Outfall#002	0.24	U	0.009	U	100	U	72	U	110	U
05/11/20	Outfall#002	0.24	U	0.009	U	100	U	71	U	100	U
05/19/20	Outfall#002	0.24	U	0.009	U	100	U	65	U	96	U F1
05/26/20	Outfall#002	0.24	U	0.009	U	100	U	200		360	J, B, *
06/01/20	Outfall#002	0.24	U	0.010	U	100	U	70	U	100	J, B, *
06/08/20	Outfall#002	0.24	U	0.010	U	100	U	71	U	100	U

Table 4-8
DPE System Treated Water Discharge
Analytical Data and Field Parameters
Former Unocal Terminal
11720 Unoco Road
Edmonds, Washington

Sample Date	Sample Name	Benzene		cPAHs		Gasoline		Diesel		Heavy Oil	
	NPDES Permit No.	16 ug/L		0.05 ug/L		800 ug/L		500 ug/L		500 ug/L	
	WA0991007 Discharge Limits	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q
06/15/20	Outfall#002	0.24	U	0.009	U	100	U	65	U	150	J, B
06/22/20	Outfall#002	0.24	U	0.010	U	100	U, *	76	J	130	J
06/30/20	Outfall#002	0.24	U	0.009	U	100	U	67	U	180	J, B, *
07/06/20	Outfall#002	0.24	U	0.046	U	100	U	73	U	110	U
08/14/20	Outfall#002	0.24	U	0.010	U	100	U	63	U	93	U
08/19/20	Outfall#002	0.24	U	0.009	U	100	U	68	U	100	U
08/26/20	Outfall#002	0.24	U	0.011	U	100	U	73	U	110	U
09/02/20	Outfall#002	0.24	U	0.009	U	100	U	67	U	100	U
09/10/20	Outfall#002	0.24	U	0.009	U	100	U	69	U	100	*
09/18/20	Outfall#002	0.24	U	0.012	U, J	100	U	93	J	160	J, B, *, F1
09/24/20	Outfall#002	0.24	U	0.009	U	100	U	66	U	98	U
09/30/20	Outfall#002	0.24	U	0.009	U	100	U	66	U	120	J
10/05/20	Outfall#002	0.24	U	0.009	U	100	U	69	U	100	U
10/16/20	Outfall#002	0.24	U	0.010	U	100	U	69	U	100	U
10/21/20	Outfall#002	0.24	U	0.017	U, J	100	U	69	U	100	U
10/27/20	Outfall#002	0.24	U	0.010	U	100	U	73	U	110	U
11/02/20	Outfall#002	0.24	U	0.010	U	100	U, H	68	U	100	U
11/10/20	Outfall#002	0.24	U	0.010	U	100	U	69	U	100	U
11/20/20	Outfall#002	0.24	U	0.009	U	100	U	68	U	100	U
11/23/20	Outfall#002	0.24	U	0.012	U, J	100	U	63	U	94	U
12/01/20	Outfall#002	0.24	U	0.009	U	100	U	67	U	100	U
12/10/20	Outfall#002	0.24	U	0.010	U	100	U	72	U	110	U
12/16/20	Outfall#002	0.24	U	0.010	U	100	U	70	U	100	U
12/21/20	Outfall#002	0.24	U	0.009	U	100	U	69	U	100	U
12/30/20	Outfall#002	0.24	U	0.009	U	100	U	73	U	110	U

Table 4-8
DPE System Treated Water Discharge
Analytical Data and Field Parameters
Former Unocal Terminal
11720 Unoco Road
Edmonds, Washington

Sample Date	Sample Name	Benzene		cPAHs		Gasoline		Diesel		Heavy Oil	
	NPDES Permit No.	16 ug/L		0.05 ug/L		800 ug/L		500 ug/L		500 ug/L	
	WA0991007 Discharge Limits	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q	ug/L	Lab Q

Notes

NPDES = National Pollutant Discharge Elimination System

Benzene by Method United States Environmental Protection Agency (USEPA) 624

Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs) analyzed by USEPA Method 625. Total cPAHs calculated by summing the concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene and adjusted for toxicity using toxic equivalency factors to represent a total benzo(a)pyrene concentration (WAC 173-340-900). For results which do not exceed lab. method detection limit (MDL), half of the lab. MDL is added to determine cPAHs concentration.

Gasoline by Washington State Department of Ecology (Ecology) Method NWT PH-Gx

Diesel and Heavy Oil by Ecology Method NWT PH-Dx (after silica gel cleanup)

pH by pH meter onsite

ug/L = micrograms per liter.

Lab Q: Laboratory (lab.) qualifier

U: Not detected at the lab. reporting limit (RL). Per request of Washington Department of Ecology, Water Quality Program, regulator, all non detect values are reported to lab. MDLs beginning February 2020. Prior to February 2020, values shown are the lab. RLs besides for cPAHs where value shown are the lab. MDLs.

B: Compound was found in the lab. method blank and the sample. [The sample may have been cross-contaminated at the lab.]

J: Result is an estimate. Result is less than the lab. RL but greater than or equal to the lab. MDL and the concentration is an approximate value.

*: Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits / Relative percent difference (RPD) of the LCS and LCSD exceeds the control limits

F1: Matrix spike (MS) and/or Matrix spike duplicate (MSD) recovery is outside acceptance limits.

F2: MS/MSD RPD exceeds control limits

H: Sample was prepped or analyzed beyond the specified holding time

X: Surrogate is outside control limits

Val Q: Validation (lab.) qualifier. Noted if different from Lab Q.

U: Qualified as non-detect

J: the concentration is an approximate value

UJ: the analyte was analyzed for, but was not detected and the reported quantitation limit is approximate

--: Val Q. is equal to Lab Q.

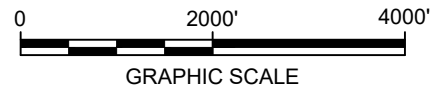
FIGURES



CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD DB: R. OBERLANDER ID: R. OBERLANDER L: D. R. OBERLANDER P: C. (Opt) PM: (Rept) TM: (Op) L: Y. (Opt) ON: "OFF" REF: C:\ENV\CAD\minneapolis\minact\1604536200\005\GOR 2017\DWG\4536200-1.dwg LAYOUT: 1-1 SAVED: 10/20/2017 12:42 PM ACADVER: 20.15 (MIS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 10/20/2017 12:47 PM BY: OBERLANDER, ROSEANNE



REFERENCE: BASE MAP USGS QUADS., 7.5 MIN. SERIES (TOPOGRAPHIC) - EDMONDS EAST, WASH. AND EDMONDS WEST, WASH.

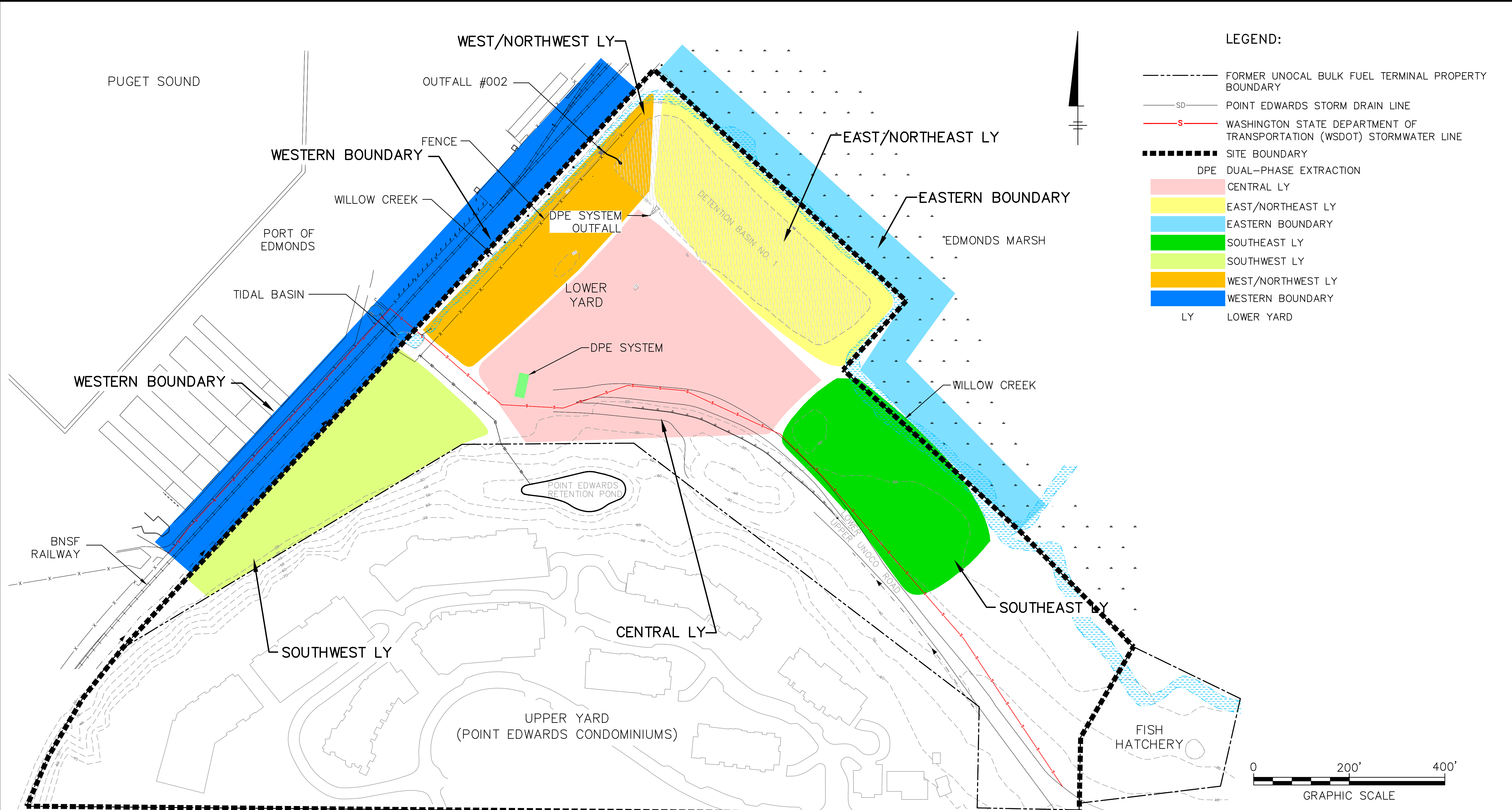


WASHINGTON



<p>CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER UNOCAL BULK FUEL TERMINAL EDMONDS, WASHINGTON 2020 GROUNDWATER AND OPERATION REPORT</p>	
<p>SITE LOCATION</p>	
	<p><i>Design & Consultancy for natural and built assets</i></p>
<p>FIGURE 1-1</p>	

CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD, DR: R. OBERLANDER, LD:(Opt), PIC: K. ABBOTT, PM: S. ZORN, TM: S. ZORN, LY:(Option)=-OFF=-REF-
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 BY: JAYAPAL, DINESH KUMAR
 XREFS: IMAGES: PROJECTNAME: ---
 45362X02
 45362X03
 45362X00
 RECORD-INT-ACT-X-RECORDTOPO



LEGEND:

- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
- SD--- POINT EDWARDS STORM DRAIN LINE
- S--- WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE
- SITE BOUNDARY
- DPE DUAL-PHASE EXTRACTION
- CENTRAL LY
- EAST/NORTHEAST LY
- EASTERN BOUNDARY
- SOUTHEAST LY
- SOUTHWEST LY
- WEST/NORTHWEST LY
- WESTERN BOUNDARY
- LY LOWER YARD

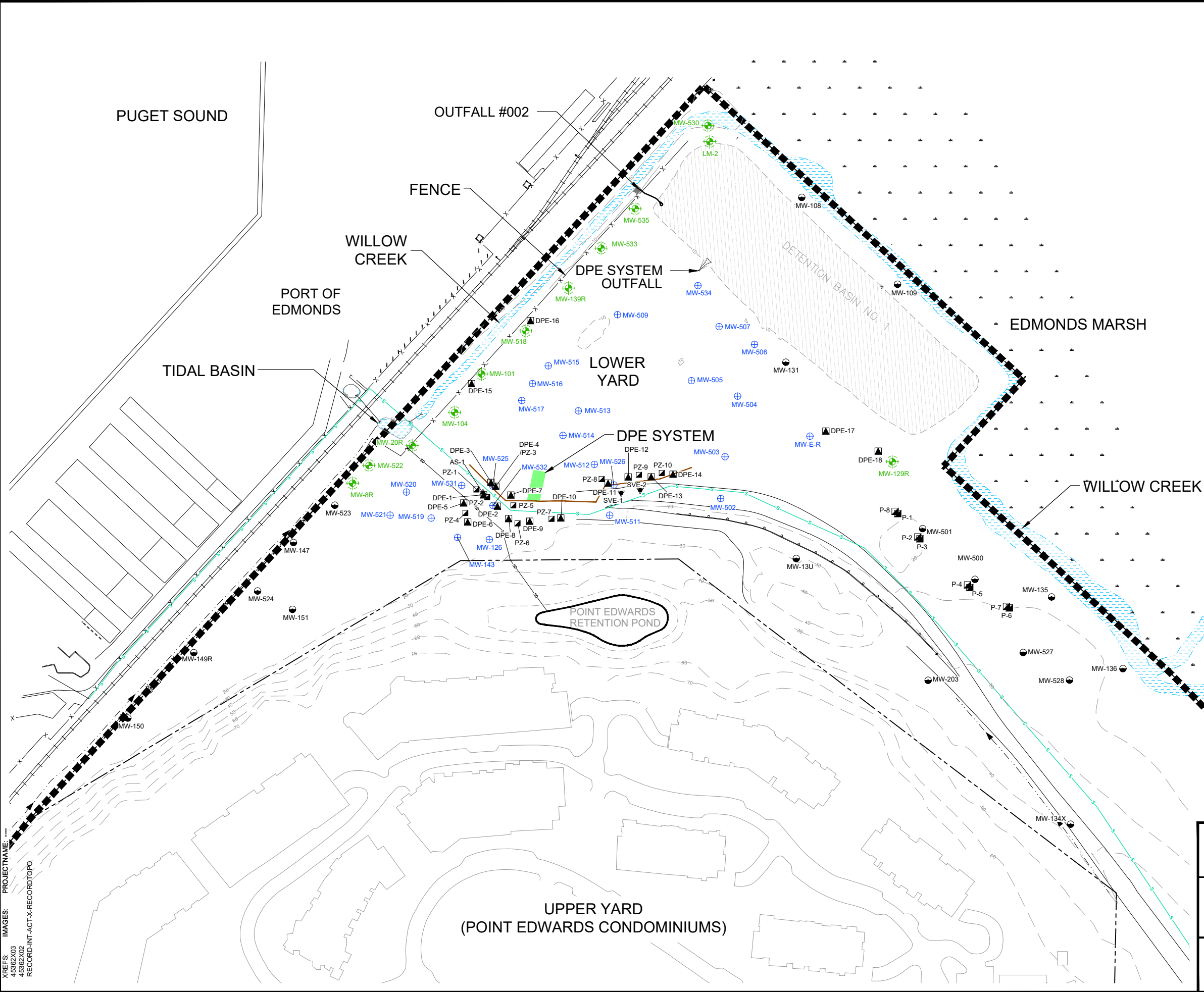
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON
2020 GROUNDWATER AND OPERATION REPORT

SITE LAYOUT

ARCADIS Design & Consultancy
 for natural and built assets

FIGURE
2-1

CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD DB: R. OBERLANDER, LD: R. OBERLANDER, PIC: (Opt) PM: (Rep) TM: (Cpt) LYN: (CON) OFF: REF
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 45362X03
 45362X02



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▣ PIEZOMETER LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▲ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98). VERTICAL DATUM: N.A.V.D. 88. UNITS: U.S. SURVEY FEET. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
 3. SOUTHEAST PORTION OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE HAS NOT BEEN SURVEYED.
 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.

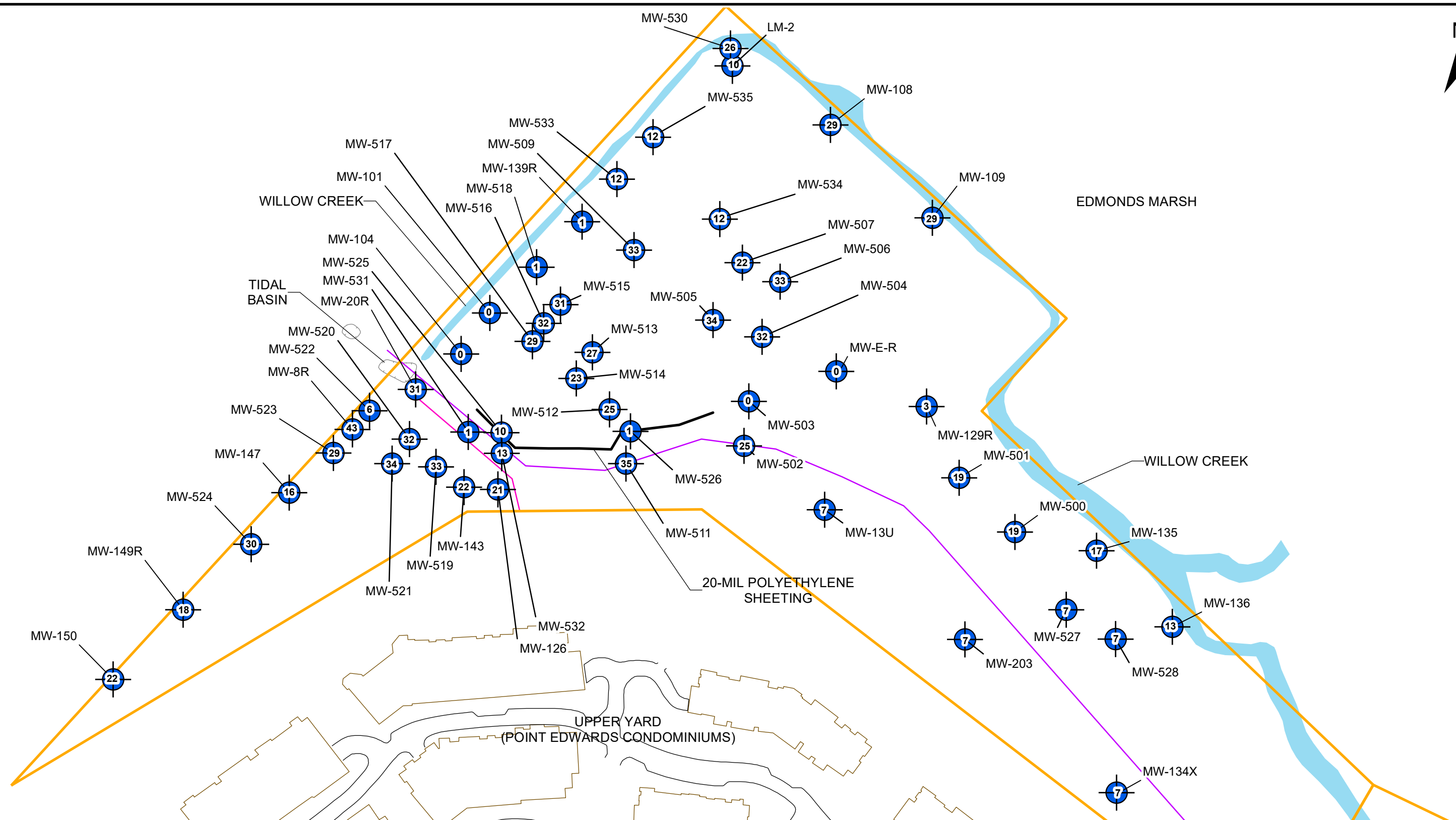


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON
2020 GROUNDWATER AND OPERATION REPORT





**COMPLIANCE MONITORING
 WELL LOCATIONS**

ARCADIS Design & Consultancy
 for natural and built assets

FIGURE
3-1



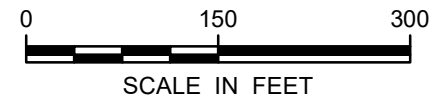
LEGEND


-  WELL AND NUMBER OF CONSECUTIVE SAMPLING ROUNDS SHOWING CONCENTRATIONS OF TOTAL PETROLEUM HYDROCARBONS (TPH) LESS THAN PROPOSED GROUNDWATER CLEANUP LEVELS (CULs)
-  WSDOT STORMWATER LINE
-  POINT EDWARDS STORM DRAIN LINE
-  LOWER YARD PROPERTY BOUNDARY

NOTES:

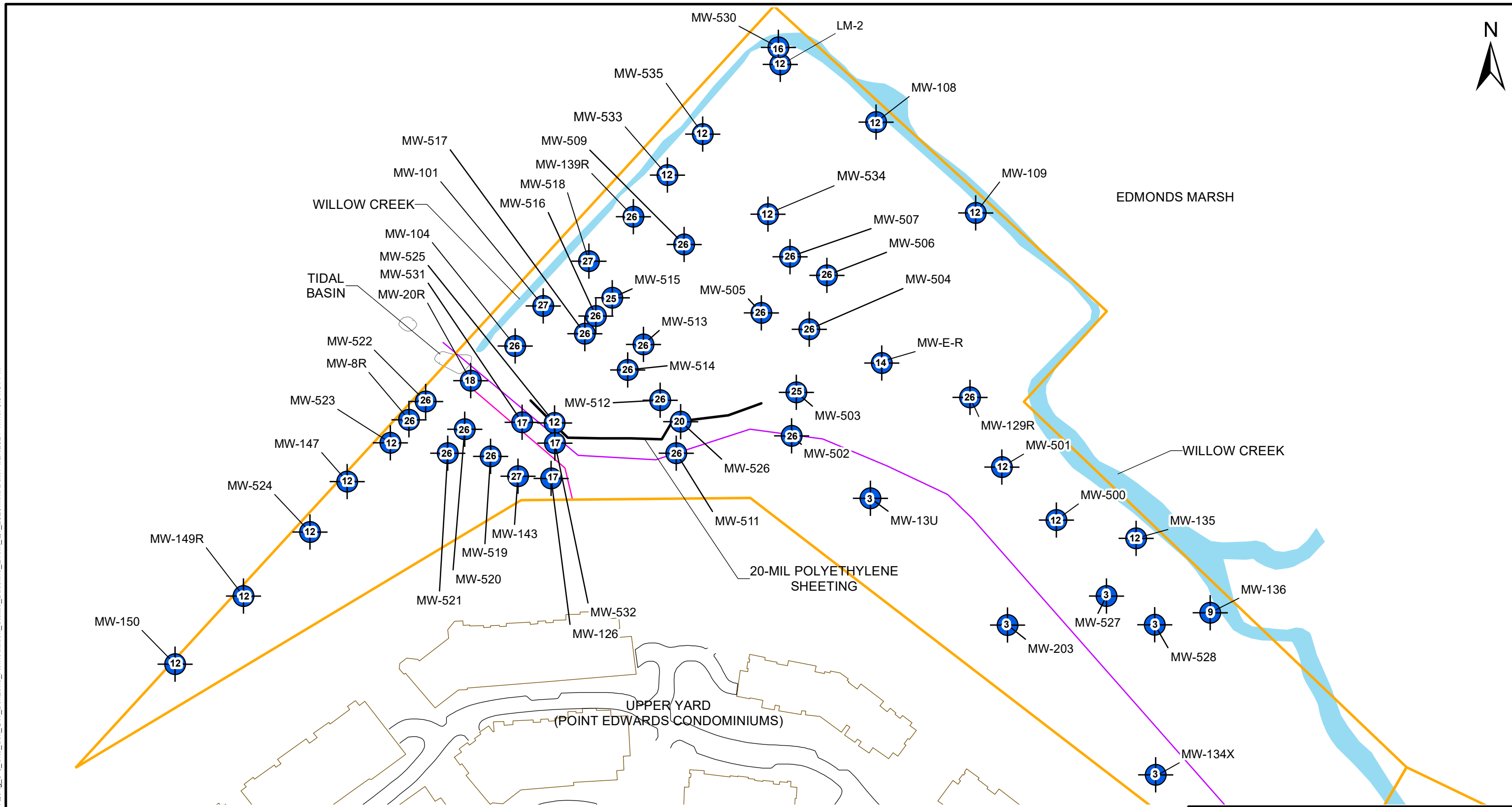
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
2. SOUTHEAST PORTION OF WSDOT STORMWATER LINE HAS NOT BEEN SURVEYED.
3. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20TH, 2017 AND RENAMED MW-E-R.
4. MONITORING WELLS MW-508, MW-510 AND MW-529 WERE EXCAVATED IN THIRD QUARTER 2017. MONITORING WELLS MW-533, MW-534 AND MW-535 WERE INSTALLED POST-EXCAVATION ON OCTOBER 20TH, 2017.
5. MONITORING WELLS MW-101, MW-129R, MW-518, MW-526 MW-E-R WERE SAMPLED TWICE ON FIRST QUARTER 2019.

MG/KG - MILLIGRAMS PER KILOGRAM
 WSDOT = WASHINGTON STATE DEPARTMENT OF TRANSPORTATION



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2020 GROUNDWATER AND OPERATION REPORT	
SITE GROUNDWATER TPH REMEDIATION STATUS - FOURTH QUARTER 2020	
	FIGURE 3-2

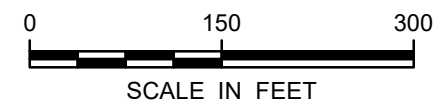
CITY: HIGHLANDS RANCH, CO DIV: GROUP: (ENV/GIS) DB: B.GRIFFITH
 Path: T:_ENV\Chevron_EdmundsMXD\2020_4Q\Fig_3-3_Site_Soil_GW_Benzene_Remediation_Status_Baseline_Event_Q4_2020.mxd Date: 4/27/2021 Time: 5:31:01 PM



LEGEND

- WELL AND NUMBER OF CONSECUTIVE SAMPLING ROUNDS SHOWING CONCENTRATIONS OF BENZENE LESS THAN OR EQUAL TO PROPOSED GROUNDWATER CUL (16 µg/L)
- WSDOT STORMWATER LINE
- POINT EDWARDS STORM DRAIN LINE
- LOWER YARD PROPERTY BOUNDARY

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. SOUTHEAST PORTION OF WSDOT STORMWATER LINE HAS NOT BEEN SURVEYED.
 3. BENZENE WAS ANALYZED DURING 22 EVENTS FOR MOST OF THE WELLS SINCE OCTOBER 2008.
 4. MONITORING WELLS MW-508, MW-510 AND MW-529 WERE EXCAVATED IN THIRD QUARTER 2017.
 5. MONITORING WELLS MW-533, MW-534 AND MW-535 WERE INSTALLED POST-EXCAVATION ON OCTOBER 20th, 2017.
 6. MONITORING WELLS MW-101, MW-129R, MW-518, MW-526, MW-E-R WERE SAMPLED TWICE ON FIRST QUARTER 2019.
 - * - BENZENE WAS NOT DETECTED IN THE SAMPLE COLLECTED FROM THE MONITORING WELL HOWEVER THE DETECTION LIMIT WAS ABOVE THE CUL DUE TO A LABORATORY SAMPLE DILUTION.
 - µg/L - MICROGRAMS PER LITER, CUL - CLEANUP LEVEL



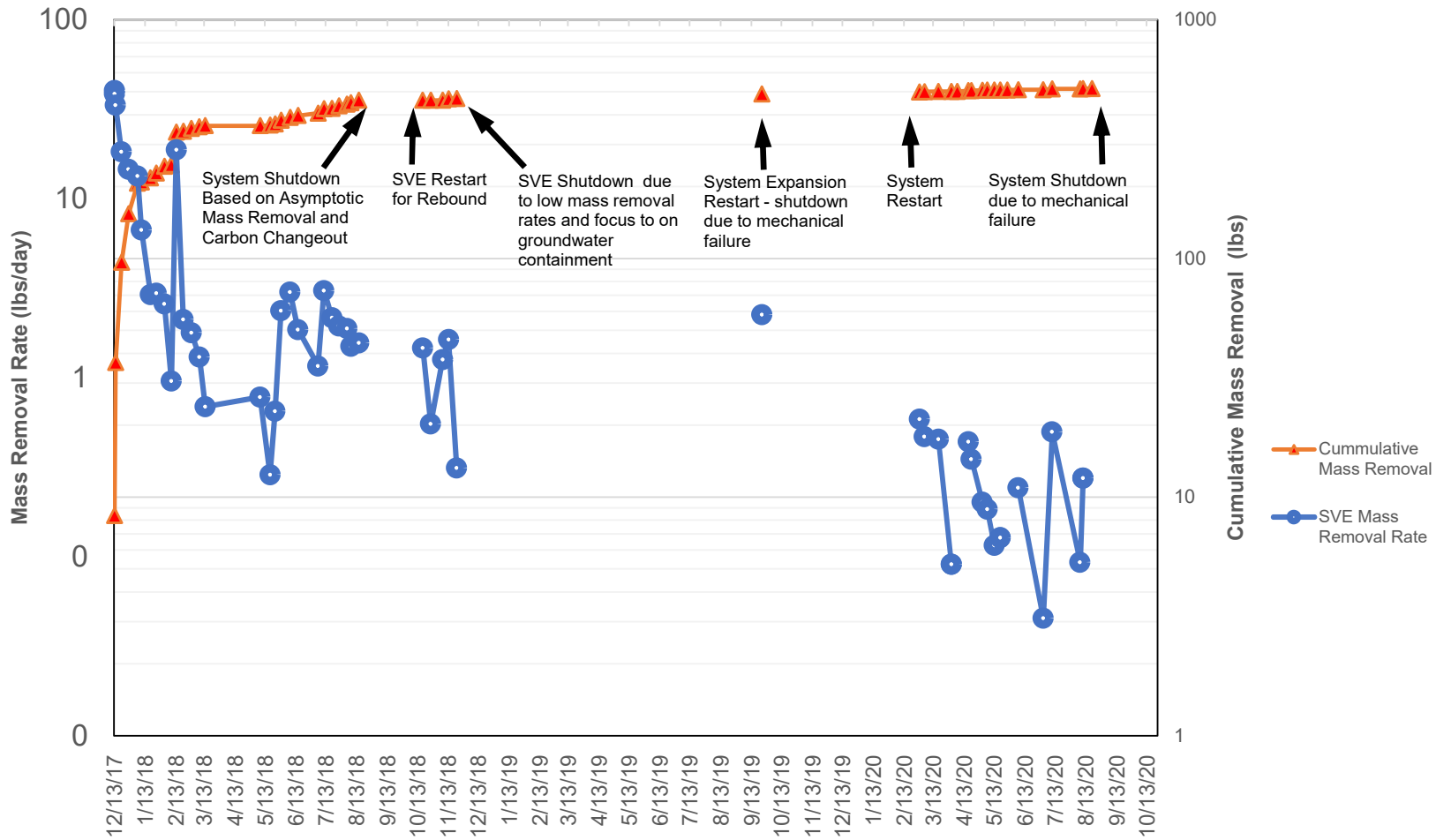
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

2020 GROUNDWATER AND OPERATION REPORT

**GROUNDWATER BENZENE
 REMEDIATION STATUS - FOURTH QUARTER 2020**

ARCADIS

FIGURE 3-3



DPE SYSTEM VAPOR PHASE MASS REMOVAL
Former Unocal Edmonds Bulk Fuel Terminal - Edmonds, Washington

Figure 4-1

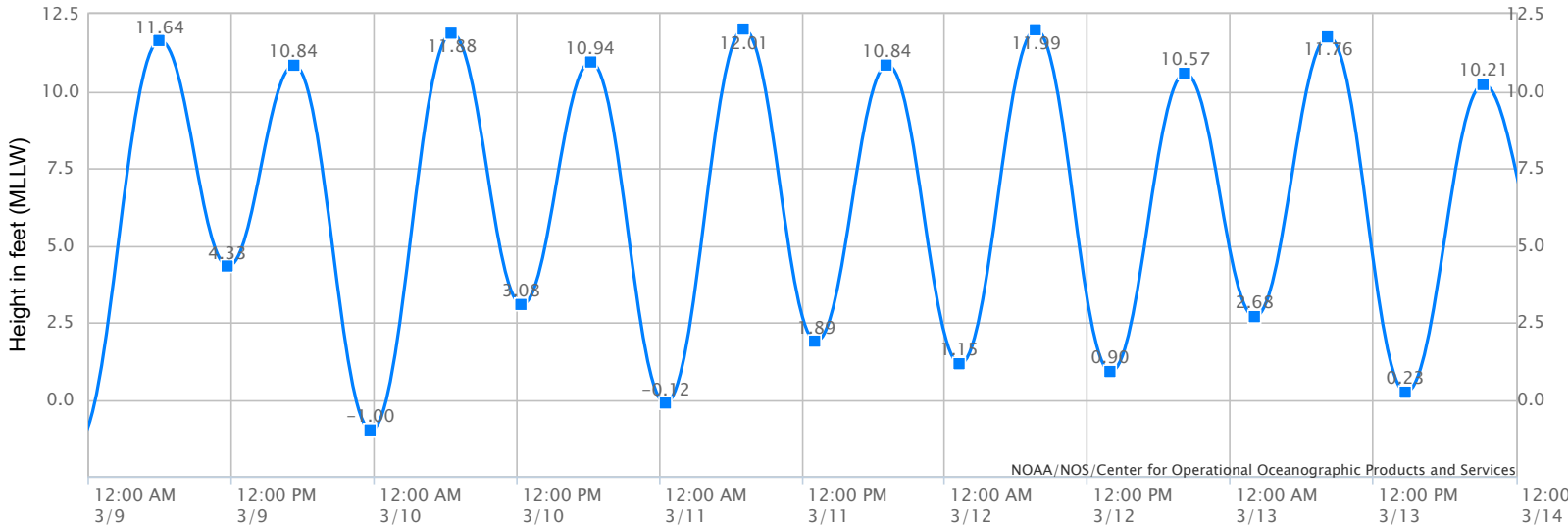
APPENDIX A

National Oceanic and Atmospheric Administration Edmonds Tide Charts





NOAA/NOS/CO-OPS
Tide Predictions at 9447427, EDMONDS WA
 From 2020/03/09 12:00 AM LST/LDT to 2020/03/13 11:59 PM LST/LDT
 Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 0 min. low: -4 min.) | Height offsets (high: *0.96 ft. low: *0.99 ft.)



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

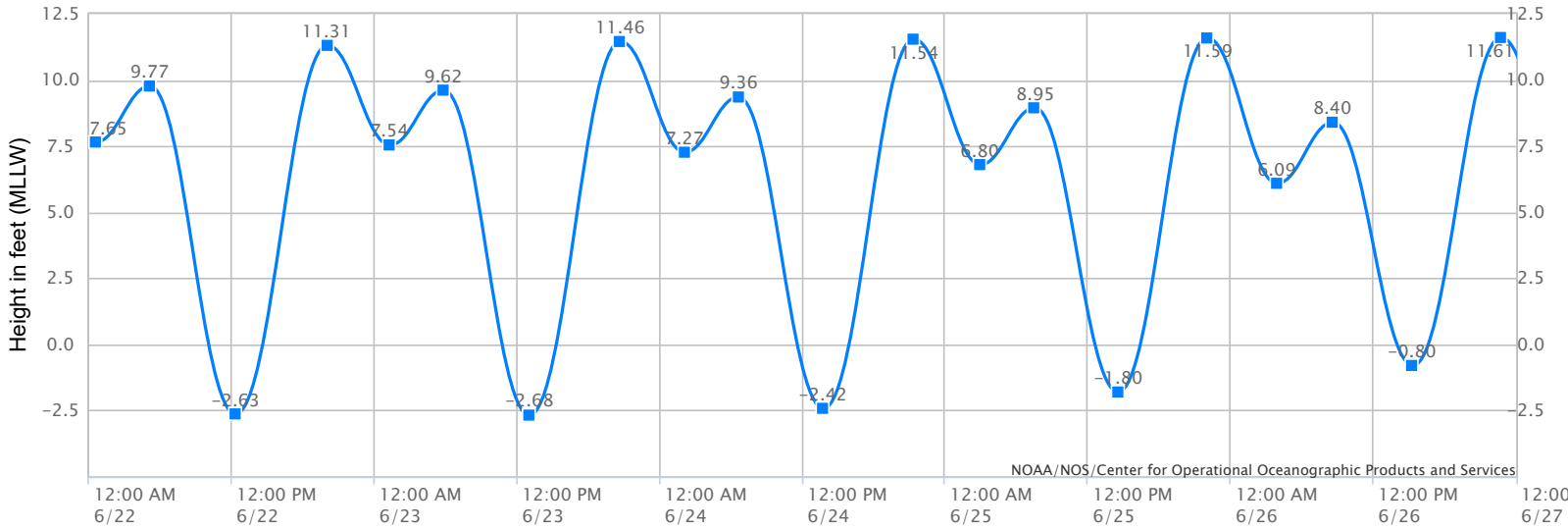
Station Name: EDMONDS, WA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2020/3/9 12:00 AM
 End Date & Time: 2020/3/13 11:59 PM

Source: NOAA/NOS/CO-OPS
 Prediction Type: Subordinate
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST/LDT

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2020/03/09	Mon	05:58 AM	11.64 H	11:42 AM	4.33 L	5:15 PM	10.84 H	11:43 PM	-1.00 L
2020/03/10	Tue	06:29 AM	11.88 H	12:24 PM	3.08 L	6:11 PM	10.94 H		
2020/03/11	Wed	12:28 AM	-0.12 L	07:02 AM	12.01 H	1:08 PM	1.89 L	7:08 PM	10.84 H
2020/03/12	Thu	01:14 AM	1.15 L	07:36 AM	11.99 H	1:54 PM	0.90 L	8:09 PM	10.57 H
2020/03/13	Fri	02:01 AM	2.68 L	08:12 AM	11.76 H	2:43 PM	0.23 L	9:14 PM	10.21 H



NOAA/NOS/CO-OPS
Tide Predictions at 9447427, EDMONDS WA
 From 2020/06/22 12:00 AM LST/LDT to 2020/06/26 11:59 PM LST/LDT
 Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 0 min. low: -4 min.) | Height offsets (high: *0.96 ft. low: *0.99 ft.)



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

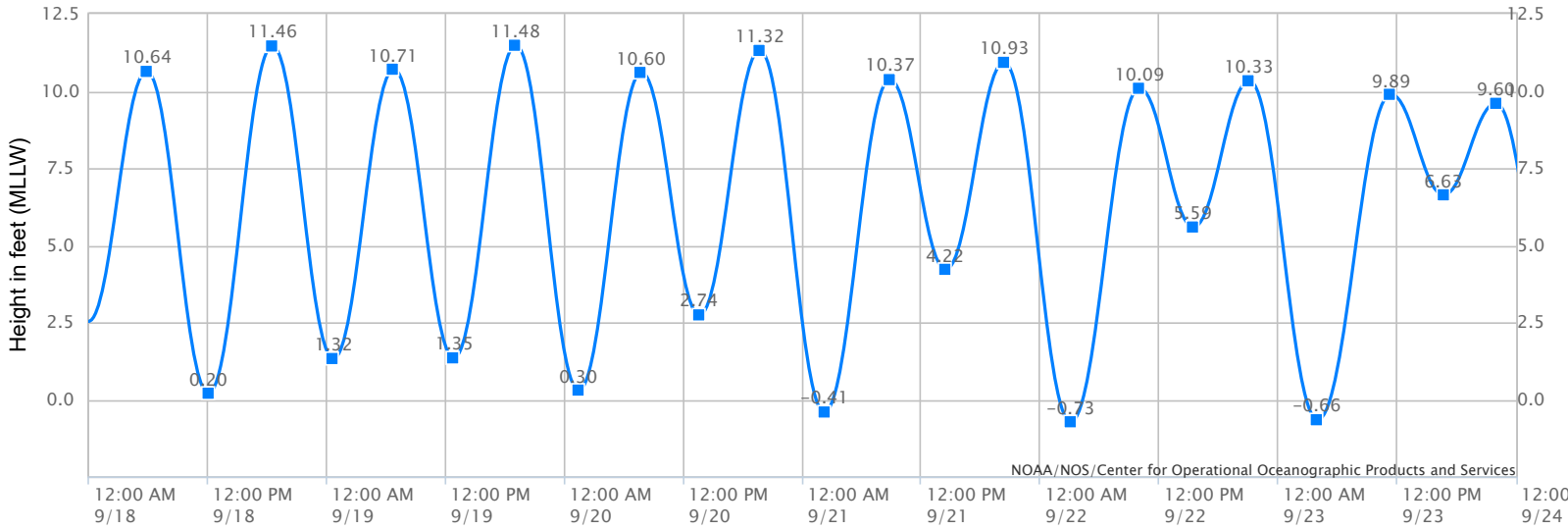
Station Name: EDMONDS, WA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2020/6/22 12:00 AM
 End Date & Time: 2020/6/26 11:59 PM

Source: NOAA/NOS/CO-OPS
 Prediction Type: Subordinate
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST/LDT

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2020/06/22	Mon	12:35 AM	7.65 L	05:07 AM	9.77 H	12:19 PM	-2.63 L	8:02 PM	11.31 H
2020/06/23	Tue	01:19 AM	7.54 L	05:49 AM	9.62 H	1:01 PM	-2.68 L	8:40 PM	11.46 H
2020/06/24	Wed	02:06 AM	7.27 L	06:36 AM	9.36 H	1:45 PM	-2.42 L	9:20 PM	11.54 H
2020/06/25	Thu	02:57 AM	6.80 L	07:31 AM	8.95 H	2:31 PM	-1.80 L	10:01 PM	11.59 H
2020/06/26	Fri	03:54 AM	6.09 L	08:35 AM	8.40 H	3:19 PM	-0.80 L	10:42 PM	11.61 H



NOAA/NOS/CO-OPS
Tide Predictions at 9447427, EDMONDS WA
 From 2020/09/18 12:00 AM LST/LDT to 2020/09/23 11:59 PM LST/LDT
 Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 0 min. low: -4 min.) | Height offsets (high: *0.96 ft. low: *0.99 ft.)



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

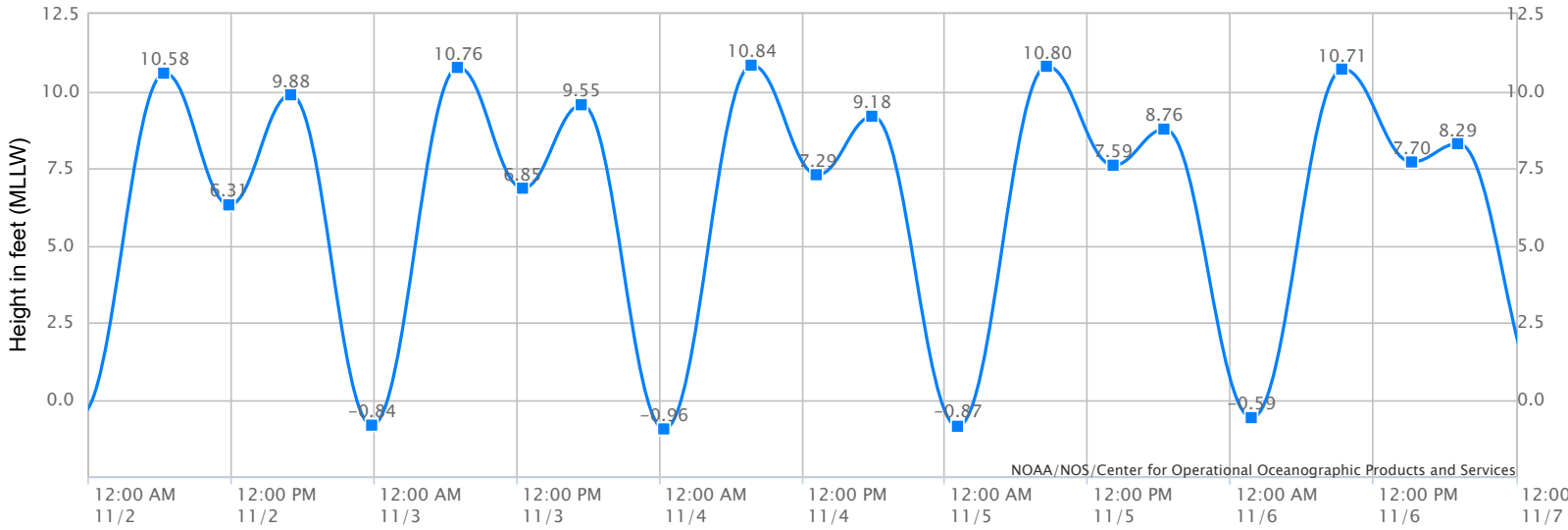
Station Name: EDMONDS, WA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2020/09/18 12:00 AM
 End Date & Time: 2020/09/23 11:59 PM

Source: NOAA/NOS/CO-OPS
 Prediction Type: Subordinate
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST/LDT

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2020/09/18	Fri	05:49 AM	10.64 H	12:03 PM	0.20 L	6:30 PM	11.46 H		
2020/09/19	Sat	12:39 AM	1.32 L	06:45 AM	10.71 H	12:48 PM	1.35 L	7:03 PM	11.48 H
2020/09/20	Sun	01:24 AM	0.30 L	07:44 AM	10.60 H	1:35 PM	2.74 L	7:40 PM	11.32 H
2020/09/21	Mon	02:11 AM	-0.41 L	08:47 AM	10.37 H	2:26 PM	4.22 L	8:19 PM	10.93 H
2020/09/22	Tue	03:02 AM	-0.73 L	09:58 AM	10.09 H	3:25 PM	5.59 L	9:04 PM	10.33 H
2020/09/23	Wed	03:57 AM	-0.66 L	11:20 AM	9.89 H	4:40 PM	6.63 L	9:57 PM	9.60 H



NOAA/NOS/CO-OPS
Tide Predictions at 9447427, EDMONDS WA
 From 2020/11/02 12:00 AM LST/LDT to 2020/11/06 11:59 PM LST/LDT
 Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 0 min. low: -4 min.) | Height offsets (high: *0.96 ft. low: *0.99 ft.)



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

Station Name: EDMONDS, WA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2020/11/2 12:00 AM
 End Date & Time: 2020/11/6 11:59 PM

Source: NOAA/NOS/CO-OPS
 Prediction Type: Subordinate
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST/LDT

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2020/11/02	Mon	06:22 AM	10.58 H	11:48 AM	6.31 L	4:58 PM	9.88 H	11:47 PM	-0.84 L
2020/11/03	Tue	07:02 AM	10.76 H	12:29 PM	6.85 L	5:26 PM	9.55 H		
2020/11/04	Wed	12:22 AM	-0.84 L	07:44 AM	10.84 H	1:15 PM	7.29 L	5:54 PM	9.18 H
2020/11/05	Thu	01:02 AM	-0.87 L	08:32 AM	10.80 H	2:08 PM	7.59 L	6:27 PM	8.76 H
2020/11/06	Fri	01:46 AM	-0.59 L	09:26 AM	10.71 H	3:13 PM	7.70 L	7:09 PM	8.29 H

APPENDIX B

Groundwater Sampling Event Field Notes



Low-Flow Test Report:

Test Date / Time: 3/9/2020 8:48:09 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-126 Latitude: 47.8055117493484 Longitude: -122.390244752169 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 3.7 ft Total Depth: 14.2 ft Initial Depth to Water: 4.98 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.55 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
---	--	---

Test Notes:

Sample Time: 0901

Final DTW: 5.53 ft btoc

Final RDO: 10.17 mg/L

Weather Conditions:

35F, clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 8:48 AM	00:00	6.82 pH	46.69 °F	541.69 µS/cm	10.82 mg/L	146.2 mV	4.98 ft	150.00 ml/min
3/9/2020 8:51 AM	03:00	6.89 pH	46.57 °F	537.08 µS/cm	10.08 mg/L	136.9 mV	4.98 ft	150.00 ml/min
3/9/2020 8:54 AM	06:00	6.91 pH	46.74 °F	526.86 µS/cm	10.04 mg/L	152.8 mV	4.98 ft	150.00 ml/min
3/9/2020 8:57 AM	09:00	6.91 pH	46.75 °F	526.63 µS/cm	10.02 mg/L	158.6 mV	4.98 ft	150.00 ml/min
3/9/2020 9:00 AM	12:00	6.92 pH	46.80 °F	515.16 µS/cm	10.17 mg/L	165.4 mV	4.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-126	Sample Time: 0901

Low-Flow Test Report:

Test Date / Time: 3/9/2020 8:57:11 AM

Project: Edmonds Terminal #120

Operator Name: BT

Location Name: MW-522 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.31 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 m Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.04 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Weather Conditions:

Sunny, 45

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 8:57 AM	00:00	7.20 pH	47.59 °F	590.01 µS/cm	5.56 mg/L	202.5 mV	8.31 ft	150.00 ml/min
3/9/2020 9:00 AM	03:00	7.17 pH	48.34 °F	583.55 µS/cm	2.96 mg/L	212.9 mV	8.31 ft	150.00 ml/min
3/9/2020 9:03 AM	06:00	7.18 pH	48.54 °F	585.63 µS/cm	3.09 mg/L	213.4 mV	8.31 ft	150.00 ml/min
3/9/2020 9:06 AM	09:00	7.20 pH	48.69 °F	588.38 µS/cm	3.43 mg/L	212.9 mV	8.31 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-522	Sample Time: 0910 Final DTW: 8.35 Final RDO: 3.55

Low-Flow Test Report:

Test Date / Time: 09/03/2020 08:58:56

Project: Edmonds Terminal 1Q20

Operator Name: Daniel Sly Gilbey

<p>Location Name: MW-502 Well Diameter: 2 cm Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.35 m</p>	<p>Pump Type: Peristaltic Tubing Type: Polyethylene Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 6257.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.37 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586</p>
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
09/03/2020 08:58	00:00		45.21 °F	222.44 µS/cm	7.38 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:04	05:21		47.37 °F	213.26 µS/cm	0.62 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:04	06:01		47.49 °F	212.38 µS/cm	0.81 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:05	06:40		47.59 °F	211.00 µS/cm	0.85 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:06	07:11		47.61 °F	211.77 µS/cm	0.79 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:07	08:10		47.72 °F	213.31 µS/cm	0.70 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:07	08:37		47.77 °F	212.34 µS/cm	0.83 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:11	12:15		47.97 °F	215.80 µS/cm	0.53 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:18	19:19		47.95 °F	214.96 µS/cm	0.50 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:21	22:19		47.98 °F	219.78 µS/cm	0.75 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:24	25:19		48.06 °F	225.40 µS/cm	0.45 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:28	29:43		48.34 °F	225.07 µS/cm	0.63 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:31	32:43		48.40 °F	226.17 µS/cm	0.51 mg/L		5.35 m	150.00 ml/min

09/03/2020 09:34	35:43		48.42 °F	228.56 µS/cm	0.42 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:37	38:43		48.47 °F	237.83 µS/cm	0.37 mg/L		5.35 m	150.00 ml/min
09/03/2020 09:40	41:43		48.58 °F	232.42 µS/cm	0.36 mg/L		5.35 m	150.00 ml/min

Samples

Sample ID:	Description:
MW-502	<p>Sample time 9:51 Final DTW 5.72 Final RDO 0.36</p> <p>pH and ORP did not function on digital form. Took sample after purging for 40 minutes</p>

Low-Flow Test Report:

Test Date / Time: 3/9/2020 9:23:15 AM

Project: Edmonds Terminal 1Q20

Operator Name: KZ

Location Name: MW-515 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.06 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1.42 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466472
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Test Notes:

Weather Conditions:

28 degrees, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 9:23 AM	00:00	8.09 pH	55.24 °F	664.10 µS/cm	8.92 mg/L	87.7 mV	5.06 ft	150.00 ml/min
3/9/2020 9:26 AM	03:00	7.44 pH	52.15 °F	724.87 µS/cm	0.87 mg/L	91.6 mV	5.06 ft	150.00 ml/min
3/9/2020 9:29 AM	06:00	7.36 pH	52.14 °F	724.73 µS/cm	0.43 mg/L	89.7 mV	5.06 ft	150.00 ml/min
3/9/2020 9:32 AM	09:00	7.35 pH	52.30 °F	720.26 µS/cm	0.31 mg/L	86.0 mV	5.06 ft	150.00 ml/min
3/9/2020 9:35 AM	12:00	7.39 pH	52.54 °F	662.04 µS/cm	0.29 mg/L	81.6 mV	5.06 ft	150.00 ml/min
3/9/2020 9:38 AM	15:00	7.43 pH	52.58 °F	549.68 µS/cm	0.52 mg/L	76.9 mV	5.06 ft	150.00 ml/min
3/9/2020 9:41 AM	18:00	7.42 pH	52.32 °F	503.41 µS/cm	0.92 mg/L	73.5 mV	5.06 ft	150.00 ml/min
3/9/2020 9:44 AM	21:00	7.40 pH	52.51 °F	468.90 µS/cm	1.49 mg/L	71.9 mV	5.06 ft	150.00 ml/min
3/9/2020 9:47 AM	24:00	7.40 pH	52.65 °F	456.30 µS/cm	1.85 mg/L	69.6 mV	5.06 ft	150.00 ml/min
3/9/2020 9:50 AM	27:00	7.39 pH	52.83 °F	448.37 µS/cm	2.24 mg/L	67.8 mV	5.06 ft	150.00 ml/min
3/9/2020 9:53 AM	30:00	7.40 pH	52.88 °F	439.14 µS/cm	2.67 mg/L	65.9 mV	5.06 ft	150.00 ml/min
3/9/2020 9:56 AM	33:00	7.40 pH	53.07 °F	442.85 µS/cm	2.85 mg/L	64.5 mV	5.06 ft	150.00 ml/min

3/9/2020 9:59 AM	36:00	7.41 pH	53.21 °F	423.02 µS/cm	3.01 mg/L	62.8 mV	5.06 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-515	Sample Time: 1003 Final DTW: 5.06 ft btoc Final RDO: 3.01 mg/L

Low-Flow Test Report:

Test Date / Time: 3/9/2020 9:42:59 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-143 Latitude: 47.8054926083663 Longitude: -122.390490174294 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.6 ft Top of Screen: 3.5 ft Total Depth: 14.1 ft Initial Depth to Water: 4.85 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 6975 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.23 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1031

Final DTW: 6.08 ft btoc

Final RDO: 0.94 mg/L

RDO did not stabilize after 45 minutes.

Weather Conditions:

35F, clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 9:42 AM	00:00	6.48 pH	48.29 °F	392.63 µS/cm	1.46 mg/L	18.2 mV	4.85 ft	150.00 ml/min
3/9/2020 9:45 AM	03:00	6.48 pH	47.62 °F	392.58 µS/cm	0.79 mg/L	-6.1 mV	4.85 ft	150.00 ml/min
3/9/2020 9:48 AM	06:00	6.46 pH	46.94 °F	392.73 µS/cm	0.73 mg/L	-28.4 mV	4.85 ft	150.00 ml/min
3/9/2020 9:51 AM	09:00	6.48 pH	46.42 °F	391.67 µS/cm	0.80 mg/L	-43.4 mV	4.85 ft	150.00 ml/min
3/9/2020 9:54 AM	12:00	6.47 pH	46.14 °F	392.55 µS/cm	0.84 mg/L	-56.1 mV	4.85 ft	150.00 ml/min
3/9/2020 9:57 AM	15:00	6.48 pH	45.95 °F	392.71 µS/cm	0.84 mg/L	-63.1 mV	4.85 ft	150.00 ml/min
3/9/2020 10:00 AM	18:00	6.48 pH	44.05 °F	377.72 µS/cm	0.92 mg/L	-70.8 mV	4.85 ft	150.00 ml/min
3/9/2020 10:03 AM	21:00	6.46 pH	48.81 °F	396.26 µS/cm	0.43 mg/L	-80.1 mV	4.85 ft	150.00 ml/min
3/9/2020 10:06 AM	24:00	6.46 pH	48.97 °F	397.08 µS/cm	0.36 mg/L	-90.0 mV	4.85 ft	150.00 ml/min
3/9/2020 10:09 AM	27:00	6.47 pH	48.98 °F	410.44 µS/cm	0.33 mg/L	-96.1 mV	4.85 ft	150.00 ml/min

3/9/2020 10:12 AM	30:00	6.47 pH	49.17 °F	421.09 µS/cm	0.35 mg/L	-101.2 mV	4.85 ft	150.00 ml/min
3/9/2020 10:15 AM	33:00	6.48 pH	49.09 °F	429.03 µS/cm	0.40 mg/L	-104.4 mV	4.85 ft	150.00 ml/min
3/9/2020 10:18 AM	36:00	6.48 pH	49.19 °F	430.09 µS/cm	0.54 mg/L	-103.6 mV	4.85 ft	150.00 ml/min
3/9/2020 10:21 AM	39:00	6.49 pH	49.07 °F	448.30 µS/cm	0.60 mg/L	-101.9 mV	4.85 ft	150.00 ml/min
3/9/2020 10:24 AM	42:00	6.49 pH	48.98 °F	449.52 µS/cm	0.73 mg/L	-101.3 mV	4.85 ft	150.00 ml/min
3/9/2020 10:27 AM	45:00	6.49 pH	48.94 °F	448.90 µS/cm	0.84 mg/L	-97.8 mV	4.85 ft	150.00 ml/min
3/9/2020 10:29 AM	46:30	6.49 pH	48.92 °F	449.02 µS/cm	0.94 mg/L	-98.1 mV	4.85 ft	150.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 3/9/2020 10:09:41 AM

Project: Edmonds Terminal #120 (2)

Operator Name: BT

<p>Location Name: MW-518 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 2.5 ft Total Depth: 12.5 ft Initial Depth to Water: 8.48 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 m Estimated Total Volume Pumped: 3230 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.9 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 10:09 AM	00:00	7.60 pH	49.82 °F	483.45 µS/cm	1.03 mg/L	-46.1 mV	8.48 ft	150.00 ml/min
3/9/2020 10:10 AM	00:32	7.59 pH	49.18 °F	501.97 µS/cm	0.81 mg/L	-57.3 mV	8.48 ft	150.00 ml/min
3/9/2020 10:13 AM	03:32	7.57 pH	50.49 °F	499.10 µS/cm	0.03 mg/L	-84.9 mV	8.48 ft	150.00 ml/min
3/9/2020 10:16 AM	06:32	7.56 pH	50.85 °F	490.37 µS/cm	0.00 mg/L	-97.6 mV	8.48 ft	150.00 ml/min
3/9/2020 10:19 AM	09:32	7.57 pH	50.83 °F	478.92 µS/cm	0.00 mg/L	-106.7 mV	8.48 ft	150.00 ml/min
3/9/2020 10:22 AM	12:32	7.57 pH	50.79 °F	477.04 µS/cm	0.05 mg/L	-110.8 mV	8.48 ft	150.00 ml/min
3/9/2020 10:25 AM	15:32	7.57 pH	50.56 °F	472.64 µS/cm	0.00 mg/L	-115.2 mV	8.48 ft	150.00 ml/min
3/9/2020 10:28 AM	18:32	7.57 pH	50.54 °F	465.13 µS/cm	0.00 mg/L	-118.7 mV	8.48 ft	150.00 ml/min
3/9/2020 10:31 AM	21:32	7.58 pH	50.51 °F	463.20 µS/cm	0.00 mg/L	-121.7 mV	8.48 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-518	Sample Time: 0940 Final DTW: 8.64 Final RDO: 0.0

DUP-1

Sample Time:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 3/9/2020 10:56:15 AM

Project: Edmonds Terminal 1Q20

Operator Name: KZ

Location Name: MW-516 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.7 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 0.34 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466472
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Test Notes:

Weather Conditions:

30 degrees, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 10:56 AM	00:00	7.66 pH	56.66 °F	174.63 µS/cm	8.40 mg/L	64.3 mV	4.70 ft	150.00 ml/min
3/9/2020 10:59 AM	03:00	7.26 pH	52.97 °F	183.15 µS/cm	7.33 mg/L	73.9 mV	4.70 ft	150.00 ml/min
3/9/2020 11:02 AM	06:00	7.12 pH	52.25 °F	192.94 µS/cm	7.13 mg/L	78.1 mV	4.70 ft	150.00 ml/min
3/9/2020 11:05 AM	09:00	7.08 pH	51.83 °F	195.41 µS/cm	7.01 mg/L	79.2 mV	4.70 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-516	Sample Time: 1113 Final DTW: 4.70 ft btoc
MW-516 MS/MSD	Sample Time: 1114 Final DTW: 4.70 ft btoc

Low-Flow Test Report:

Test Date / Time: 3/9/2020 10:57:41 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-519 Latitude: 47.8055766034471 Longitude: -122.390711791813 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 7117.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1141

Final DTW: 7.10 ft btoc

Final RDO: 4.20 mg/L

RDO and ORP did not stabilize after 45 minutes.

Weather Conditions:

45F, clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %	
3/9/2020 10:57 AM	00:00	6.98 pH	49.77 °F	457.11 µS/cm	1.76 mg/L	-16.9 mV	150.00 ml/min
3/9/2020 11:00 AM	03:00	6.95 pH	50.09 °F	457.07 µS/cm	1.50 mg/L	-8.8 mV	150.00 ml/min
3/9/2020 11:03 AM	06:00	6.98 pH	48.29 °F	455.67 µS/cm	1.72 mg/L	1.8 mV	150.00 ml/min
3/9/2020 11:06 AM	09:00	6.97 pH	49.07 °F	457.24 µS/cm	0.99 mg/L	6.6 mV	150.00 ml/min
3/9/2020 11:09 AM	12:00	6.98 pH	49.33 °F	458.04 µS/cm	1.03 mg/L	10.4 mV	150.00 ml/min
3/9/2020 11:12 AM	15:00	7.00 pH	49.29 °F	463.23 µS/cm	1.74 mg/L	15.6 mV	150.00 ml/min
3/9/2020 11:15 AM	18:00	7.01 pH	49.36 °F	461.15 µS/cm	1.38 mg/L	20.1 mV	150.00 ml/min
3/9/2020 11:18 AM	21:00	7.02 pH	49.15 °F	464.45 µS/cm	1.69 mg/L	25.5 mV	150.00 ml/min
3/9/2020 11:21 AM	24:00	7.06 pH	48.99 °F	461.60 µS/cm	2.38 mg/L	30.8 mV	150.00 ml/min
3/9/2020 11:24 AM	27:00	7.05 pH	49.05 °F	461.52 µS/cm	2.37 mg/L	35.9 mV	150.00 ml/min

3/9/2020 11:27 AM	30:00	7.06 pH	48.96 °F	456.69 µS/cm	2.50 mg/L	40.2 mV	150.00 ml/min
3/9/2020 11:30 AM	33:00	7.07 pH	48.96 °F	452.58 µS/cm	2.98 mg/L	43.5 mV	150.00 ml/min
3/9/2020 11:33 AM	36:00	7.08 pH	48.94 °F	446.78 µS/cm	3.18 mg/L	47.0 mV	150.00 ml/min
3/9/2020 11:36 AM	39:00	7.07 pH	48.86 °F	445.63 µS/cm	3.35 mg/L	50.8 mV	150.00 ml/min
3/9/2020 11:39 AM	42:00	7.09 pH	48.76 °F	442.02 µS/cm	3.79 mg/L	53.1 mV	150.00 ml/min
3/9/2020 11:42 AM	45:00	7.10 pH	48.48 °F	442.82 µS/cm	4.31 mg/L	57.8 mV	150.00 ml/min
3/9/2020 11:43 AM	46:14	7.10 pH	48.50 °F	439.00 µS/cm	4.03 mg/L	58.9 mV	150.00 ml/min
3/9/2020 11:44 AM	46:56	7.12 pH	48.48 °F	435.20 µS/cm	4.02 mg/L	58.6 mV	150.00 ml/min
3/9/2020 11:45 AM	47:27	7.10 pH	48.46 °F	435.81 µS/cm	4.20 mg/L	59.8 mV	150.00 ml/min

Samples

Sample ID:	Description:
MW-519	Sample Time: 1141

Low-Flow Test Report:

Test Date / Time: 3/9/2020 11:23:47 AM

Project: Edmonds Terminal #120 (3)

Operator Name: BT

Location Name: MW-509 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.69 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 m Estimated Total Volume Pumped: 4950 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 11:23 AM	00:00	6.89 pH	52.73 °F	3,621.5 µS/cm	2.96 mg/L	126.7 mV	3.69 ft	150.00 ml/min
3/9/2020 11:26 AM	03:00	6.92 pH	53.23 °F	3,570.6 µS/cm	0.38 mg/L	129.6 mV	3.69 ft	150.00 ml/min
3/9/2020 11:29 AM	06:00	6.95 pH	51.79 °F	2,946.1 µS/cm	0.40 mg/L	133.9 mV	3.69 ft	150.00 ml/min
3/9/2020 11:32 AM	09:00	7.01 pH	50.90 °F	2,556.1 µS/cm	0.48 mg/L	132.1 mV	3.69 ft	150.00 ml/min
3/9/2020 11:35 AM	12:00	7.03 pH	50.64 °F	2,408.3 µS/cm	0.65 mg/L	131.5 mV	3.69 ft	150.00 ml/min
3/9/2020 11:38 AM	15:00	7.05 pH	50.91 °F	2,375.0 µS/cm	0.84 mg/L	131.5 mV	3.69 ft	150.00 ml/min
3/9/2020 11:41 AM	18:00	7.06 pH	51.26 °F	2,326.8 µS/cm	1.12 mg/L	131.1 mV	3.69 ft	150.00 ml/min
3/9/2020 11:44 AM	21:00	7.05 pH	51.76 °F	2,359.5 µS/cm	1.11 mg/L	131.7 mV	3.69 ft	150.00 ml/min
3/9/2020 11:47 AM	24:00	7.07 pH	51.88 °F	2,302.3 µS/cm	1.39 mg/L	131.7 mV	3.69 ft	150.00 ml/min
3/9/2020 11:50 AM	27:00	7.07 pH	51.62 °F	2,307.1 µS/cm	1.13 mg/L	132.5 mV	3.69 ft	150.00 ml/min
3/9/2020 11:53 AM	30:00	7.07 pH	51.68 °F	2,309.9 µS/cm	1.07 mg/L	133.2 mV	3.69 ft	150.00 ml/min
3/9/2020 11:56 AM	33:00	7.08 pH	51.90 °F	2,190.5 µS/cm	1.10 mg/L	133.2 mV	3.69 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-509	Sample Time: 1210 Final DTW: 3.70 Final RDO: 1.10

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 3/9/2020 12:28:59 PM

Project: Edmonds Terminal #120 (4)

Operator Name: BT

Location Name: MW-507 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.98 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 m Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.2 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 12:28 PM	00:00	7.00 pH	68.54 °F	794.59 µS/cm	5.96 mg/L	137.9 mV	6.98 ft	150.00 ml/min
3/9/2020 12:31 PM	03:00	7.28 pH	54.87 °F	1,034.3 µS/cm	5.33 mg/L	148.5 mV	6.98 ft	150.00 ml/min
3/9/2020 12:34 PM	06:00	7.30 pH	53.31 °F	1,053.5 µS/cm	5.36 mg/L	154.0 mV	6.98 ft	150.00 ml/min
3/9/2020 12:37 PM	09:00	7.29 pH	52.74 °F	1,058.8 µS/cm	5.34 mg/L	157.4 mV	6.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-507	Sample time: 1250 Final DTW: 7.18 Final RDO: 5.35

Low-Flow Test Report:

Test Date / Time: 3/9/2020 12:30:00 PM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-520 Latitude: 47.8058017906612 Longitude: -122.390873394907 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.8 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1301

Final DTW: 7.80 ft btoc

Final RDO: 7.82 mg/L

Weather Conditions:

45F clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 12:30 PM	00:00	7.22 pH	49.95 °F	956.30 µS/cm	10.52 mg/L	59.6 mV	7.80 ft	150.00 ml/min
3/9/2020 12:33 PM	03:00	7.38 pH	49.59 °F	931.56 µS/cm	10.53 mg/L	66.5 mV	7.80 ft	150.00 ml/min
3/9/2020 12:36 PM	06:00	7.41 pH	49.67 °F	905.29 µS/cm	10.47 mg/L	71.6 mV	7.80 ft	150.00 ml/min
3/9/2020 12:39 PM	09:00	7.41 pH	49.78 °F	904.94 µS/cm	10.09 mg/L	77.8 mV	7.80 ft	150.00 ml/min
3/9/2020 12:42 PM	12:00	7.41 pH	49.94 °F	863.17 µS/cm	9.74 mg/L	84.5 mV	7.80 ft	150.00 ml/min
3/9/2020 12:45 PM	15:00	7.39 pH	49.99 °F	824.23 µS/cm	9.19 mg/L	91.2 mV	7.80 ft	150.00 ml/min
3/9/2020 12:48 PM	18:00	7.37 pH	50.22 °F	783.76 µS/cm	8.74 mg/L	96.5 mV	7.80 ft	150.00 ml/min
3/9/2020 12:51 PM	21:00	7.36 pH	50.16 °F	760.59 µS/cm	8.39 mg/L	102.5 mV	7.80 ft	150.00 ml/min
3/9/2020 12:54 PM	24:00	7.34 pH	50.10 °F	716.98 µS/cm	8.10 mg/L	107.7 mV	7.80 ft	150.00 ml/min
3/9/2020 12:57 PM	27:00	7.33 pH	50.09 °F	698.38 µS/cm	7.83 mg/L	110.8 mV	7.80 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-520	Sample Time: 1301

Low-Flow Test Report:

Test Date / Time: 3/9/2020 12:53:30 PM

Project: Edmonds Terminal 1Q20

Operator Name: KZ

Location Name: MW-517 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.46 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 0.62 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466472
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Test Notes:

Weather Conditions:

32 degrees, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 12:53 PM	00:00	7.20 pH	72.08 °F	126.86 µS/cm	7.64 mg/L	78.7 mV	5.46 ft	150.00 ml/min
3/9/2020 12:56 PM	03:00	7.31 pH	62.73 °F	147.43 µS/cm	7.18 mg/L	79.3 mV	5.46 ft	150.00 ml/min
3/9/2020 12:59 PM	06:00	7.08 pH	60.49 °F	147.70 µS/cm	7.27 mg/L	79.0 mV	5.46 ft	150.00 ml/min
3/9/2020 1:02 PM	09:00	7.18 pH	59.46 °F	149.42 µS/cm	7.29 mg/L	78.4 mV	5.46 ft	150.00 ml/min
3/9/2020 1:05 PM	12:00	7.28 pH	58.06 °F	155.64 µS/cm	7.40 mg/L	82.2 mV	5.46 ft	150.00 ml/min
3/9/2020 1:09 PM	15:38	7.19 pH	56.25 °F	156.86 µS/cm	7.44 mg/L	82.7 mV	5.46 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-517	Sample Time: 1313 Final DTW: 5.46 ft btoc Final RDO: 7.44 mg/L

Low-Flow Test Report:

Test Date / Time: 3/9/2020 1:11:21 PM

Project: Edmonds Terminal #120 (5)

Operator Name: BT

<p>Location Name: MW-505 Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.8 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.09 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 1:11 PM	00:00	7.19 pH	58.52 °F	711.00 µS/cm	5.96 mg/L	123.3 mV	4.80 ft	150.00 ml/min
3/9/2020 1:14 PM	03:00	7.04 pH	54.86 °F	1,810.1 µS/cm	0.19 mg/L	9.9 mV	4.80 ft	150.00 ml/min
3/9/2020 1:17 PM	06:00	7.08 pH	54.28 °F	2,508.9 µS/cm	0.04 mg/L	-38.7 mV	4.80 ft	150.00 ml/min
3/9/2020 1:20 PM	09:00	7.08 pH	54.26 °F	2,688.2 µS/cm	0.00 mg/L	-58.3 mV	4.80 ft	150.00 ml/min
3/9/2020 1:23 PM	12:00	7.10 pH	54.43 °F	2,751.5 µS/cm	0.00 mg/L	-67.7 mV	4.80 ft	150.00 ml/min
3/9/2020 1:26 PM	15:00	7.14 pH	54.40 °F	2,867.9 µS/cm	0.00 mg/L	-72.8 mV	4.80 ft	150.00 ml/min
3/9/2020 1:29 PM	18:00	7.17 pH	54.40 °F	2,635.1 µS/cm	0.00 mg/L	-86.3 mV	4.80 ft	150.00 ml/min
3/9/2020 1:32 PM	21:00	7.19 pH	54.42 °F	2,706.3 µS/cm	0.00 mg/L	-84.4 mV	4.80 ft	150.00 ml/min
3/9/2020 1:35 PM	24:00	7.21 pH	54.43 °F	2,777.7 µS/cm	0.00 mg/L	-85.9 mV	4.80 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-505	Sample Time: 1340 Final DTW: 4.89 Final RDO: 0.0

Low-Flow Test Report:

Test Date / Time: 3/9/2020 1:35:39 PM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-521 Latitude: 47.8056581213314 Longitude: -122.39100381732 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.71 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1351

Final DTW: 6.71 ft btoc

Final RDO: 6.56 mg/L

Weather Conditions:

45F, clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/9/2020 1:35 PM	00:00	7.21 pH	50.26 °F	346.49 µS/cm	6.30 mg/L	104.0 mV	6.71 ft	150.00 ml/min
3/9/2020 1:38 PM	03:00	7.15 pH	50.14 °F	347.29 µS/cm	6.47 mg/L	111.2 mV	6.71 ft	150.00 ml/min
3/9/2020 1:41 PM	06:00	7.18 pH	50.05 °F	343.29 µS/cm	6.85 mg/L	122.2 mV	6.71 ft	150.00 ml/min
3/9/2020 1:44 PM	09:00	7.15 pH	50.22 °F	348.12 µS/cm	6.64 mg/L	126.7 mV	6.71 ft	150.00 ml/min
3/9/2020 1:47 PM	12:00	7.16 pH	50.14 °F	349.68 µS/cm	6.54 mg/L	129.9 mV	6.71 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-521	Sample Time: 13:51

Low-Flow Test Report:

Test Date / Time: 3/10/2020 8:57:59 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-503 Latitude: 47.8060240494841 Longitude: -122.388601228595 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.27 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 0951 (MS @ 0954, MSD @ 0955)

Final DTW: 5.45 ft btoc

Final RDO: 0.22 mg/L

Weather Conditions:

40F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 8:57 AM	00:00	6.81 pH	52.12 °F	412.28 µS/cm	2.88 mg/L	46.9 mV	5.27 ft	150.00 ml/min
3/10/2020 9:00 AM	03:00	6.56 pH	52.42 °F	415.86 µS/cm	0.68 mg/L	25.3 mV	5.27 ft	150.00 ml/min
3/10/2020 9:03 AM	06:00	6.61 pH	51.87 °F	411.48 µS/cm	1.26 mg/L	17.7 mV	5.27 ft	150.00 ml/min
3/10/2020 9:06 AM	09:00	6.56 pH	52.67 °F	412.06 µS/cm	0.43 mg/L	11.4 mV	5.27 ft	150.00 ml/min
3/10/2020 9:09 AM	12:00	6.58 pH	52.83 °F	412.46 µS/cm	0.30 mg/L	4.7 mV	5.27 ft	150.00 ml/min
3/10/2020 9:12 AM	15:00	6.56 pH	52.84 °F	405.69 µS/cm	0.24 mg/L	0.7 mV	5.27 ft	150.00 ml/min
3/10/2020 9:15 AM	18:00	6.58 pH	52.84 °F	410.62 µS/cm	0.24 mg/L	-4.9 mV	5.27 ft	150.00 ml/min
3/10/2020 9:18 AM	21:00	6.57 pH	52.94 °F	412.99 µS/cm	0.28 mg/L	-7.6 mV	5.27 ft	150.00 ml/min
3/10/2020 9:21 AM	24:00	6.58 pH	52.90 °F	413.48 µS/cm	0.21 mg/L	-11.3 mV	5.27 ft	150.00 ml/min
3/10/2020 9:24 AM	27:00	6.57 pH	52.95 °F	413.05 µS/cm	0.23 mg/L	-13.7 mV	5.27 ft	150.00 ml/min
3/10/2020 9:27 AM	30:00	6.58 pH	52.86 °F	411.83 µS/cm	0.20 mg/L	-15.9 mV	5.27 ft	150.00 ml/min

3/10/2020 9:30 AM	33:00	6.57 pH	52.81 °F	413.67 µS/cm	0.18 mg/L	-17.6 mV	5.27 ft	150.00 ml/min
3/10/2020 9:33 AM	36:00	6.58 pH	52.73 °F	412.62 µS/cm	0.24 mg/L	-20.0 mV	5.27 ft	150.00 ml/min
3/10/2020 9:36 AM	39:00	6.57 pH	52.58 °F	386.89 µS/cm	0.18 mg/L	-21.9 mV	5.27 ft	150.00 ml/min
3/10/2020 9:39 AM	42:00	6.58 pH	52.85 °F	412.01 µS/cm	0.19 mg/L	-24.9 mV	5.27 ft	150.00 ml/min
3/10/2020 9:42 AM	45:00	6.57 pH	52.92 °F	410.72 µS/cm	0.18 mg/L	-25.3 mV	5.27 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-503	Sample Time: 0951
MW-503-MS	Sample Time: 0954
MW-503-MSD	Sample Time: 0955

Low-Flow Test Report:

Test Date / Time: 3/10/2020 9:04:39 AM

Project: Edmonds Terminal #120 (6)

Operator Name: BT

<p>Location Name: MW-139R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4.4 ft Total Depth: 14.9 ft Initial Depth to Water: 7.17 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Forgot to write down final RDO

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 9:04 AM	00:00	6.83 pH	51.13 °F	17,814 µS/cm	4.53 mg/L	226.7 mV	7.17 ft	150.00 ml/min
3/10/2020 9:07 AM	03:00	6.94 pH	49.79 °F	16,243 µS/cm	4.96 mg/L	214.2 mV	7.17 ft	150.00 ml/min
3/10/2020 9:10 AM	06:00	7.03 pH	49.29 °F	15,037 µS/cm	5.77 mg/L	204.2 mV	7.17 ft	150.00 ml/min
3/10/2020 9:13 AM	09:00	7.04 pH	49.12 °F	17,360 µS/cm	5.90 mg/L	201.8 mV	7.17 ft	150.00 ml/min
3/10/2020 9:16 AM	12:00	7.04 pH	48.85 °F	17,490 µS/cm	5.85 mg/L	199.2 mV	7.17 ft	150.00 ml/min
3/10/2020 9:19 AM	15:00	7.06 pH	48.72 °F	17,459 µS/cm	5.97 mg/L	193.6 mV	7.17 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-139R	Sample Time: 0930 Final DTW: 7.17 Final RDO:

Low-Flow Test Report:

Test Date / Time: 3/10/2020 9:58:21 AM

Project: Edmonds Terminal #120 (7)

Operator Name: BT

<p>Location Name: MW-514 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.79 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.03 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 9:58 AM	00:00	6.85 pH	50.40 °F	3,986.2 µS/cm	0.54 mg/L	77.3 mV	4.79 ft	150.00 ml/min
3/10/2020 10:01 AM	03:00	6.84 pH	50.63 °F	3,838.3 µS/cm	0.06 mg/L	64.2 mV	4.79 ft	150.00 ml/min
3/10/2020 10:04 AM	06:00	6.84 pH	50.83 °F	3,825.7 µS/cm	0.01 mg/L	60.9 mV	4.79 ft	150.00 ml/min
3/10/2020 10:07 AM	09:00	6.84 pH	50.87 °F	3,790.2 µS/cm	0.00 mg/L	57.0 mV	4.79 ft	150.00 ml/min
3/10/2020 10:10 AM	12:00	6.85 pH	50.91 °F	3,654.9 µS/cm	0.01 mg/L	54.3 mV	4.79 ft	150.00 ml/min
3/10/2020 10:13 AM	15:00	6.86 pH	50.90 °F	3,585.2 µS/cm	0.04 mg/L	54.3 mV	4.79 ft	150.00 ml/min
3/10/2020 10:16 AM	18:00	6.87 pH	50.93 °F	3,431.8 µS/cm	0.17 mg/L	53.4 mV	4.79 ft	150.00 ml/min
3/10/2020 10:19 AM	21:00	6.88 pH	50.94 °F	3,366.6 µS/cm	0.31 mg/L	53.6 mV	4.79 ft	150.00 ml/min
3/10/2020 10:22 AM	24:00	6.89 pH	50.99 °F	3,253.1 µS/cm	0.41 mg/L	52.3 mV	4.79 ft	150.00 ml/min
3/10/2020 10:25 AM	27:00	6.90 pH	51.01 °F	3,176.1 µS/cm	0.47 mg/L	51.2 mV	4.79 ft	150.00 ml/min
3/10/2020 10:28 AM	30:00	6.92 pH	51.03 °F	3,042.5 µS/cm	0.56 mg/L	49.4 mV	4.79 ft	150.00 ml/min
3/10/2020 10:31 AM	33:00	6.93 pH	51.00 °F	2,986.1 µS/cm	0.59 mg/L	49.2 mV	4.79 ft	150.00 ml/min
3/10/2020 10:34 AM	36:00	6.93 pH	51.03 °F	3,065.4 µS/cm	0.66 mg/L	47.7 mV	4.79 ft	150.00 ml/min
3/10/2020 10:37 AM	39:00	6.94 pH	51.09 °F	2,984.6 µS/cm	0.74 mg/L	46.6 mV	4.79 ft	150.00 ml/min

3/10/2020 10:40 AM	42:00	6.96 pH	51.09 °F	2,831.7 µS/cm	0.77 mg/L	45.3 mV	4.79 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-514	Sample Time: 1050 Final DTW: 0.82 Final RDO: 0.77

Low-Flow Test Report:

Test Date / Time: 3/10/2020 10:27:58 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-504 Latitude: 47.80625734141 Longitude: -122.388615980744 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.7 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 4950 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1101

Final DTW: 6.72 ft btoc

Final RDO: 4.10 mg/L

Weather Conditions:

40F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 10:27 AM	00:00	6.78 pH	51.20 °F	8,510.5 µS/cm	2.09 mg/L	56.2 mV	6.70 ft	150.00 ml/min
3/10/2020 10:30 AM	03:00	6.80 pH	50.98 °F	8,226.8 µS/cm	0.48 mg/L	52.9 mV	6.70 ft	150.00 ml/min
3/10/2020 10:33 AM	06:00	6.82 pH	50.87 °F	8,175.3 µS/cm	0.42 mg/L	50.8 mV	6.70 ft	150.00 ml/min
3/10/2020 10:36 AM	09:00	6.83 pH	50.88 °F	8,002.6 µS/cm	0.57 mg/L	49.5 mV	6.70 ft	150.00 ml/min
3/10/2020 10:39 AM	12:00	7.02 pH	50.71 °F	4,374.6 µS/cm	4.05 mg/L	47.8 mV	6.70 ft	150.00 ml/min
3/10/2020 10:42 AM	15:00	7.11 pH	50.64 °F	3,196.0 µS/cm	5.55 mg/L	59.8 mV	6.70 ft	150.00 ml/min
3/10/2020 10:45 AM	18:00	7.13 pH	50.58 °F	3,079.8 µS/cm	5.77 mg/L	69.0 mV	6.70 ft	150.00 ml/min
3/10/2020 10:48 AM	21:00	7.13 pH	50.60 °F	3,095.3 µS/cm	5.49 mg/L	76.1 mV	6.70 ft	150.00 ml/min
3/10/2020 10:51 AM	24:00	7.13 pH	50.67 °F	3,042.6 µS/cm	5.15 mg/L	81.4 mV	6.70 ft	150.00 ml/min
3/10/2020 10:54 AM	27:00	7.13 pH	50.61 °F	2,998.6 µS/cm	4.95 mg/L	84.9 mV	6.70 ft	150.00 ml/min
3/10/2020 10:57 AM	30:00	7.12 pH	50.53 °F	2,998.6 µS/cm	4.56 mg/L	88.1 mV	6.70 ft	150.00 ml/min

3/10/2020 11:00 AM	33:00	7.10 pH	50.58 °F	3,076.2 µS/cm	4.10 mg/L	90.4 mV	6.70 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-504	Sample Time: 1101

Low-Flow Test Report:

Test Date / Time: 3/10/2020 11:08:03 AM

Project: Edmonds Terminal #120 (8)

Operator Name: BT

Location Name: MW-512 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.62 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 11:08 AM	00:00	7.29 pH	50.95 °F	1,598.4 µS/cm	1.86 mg/L	72.6 mV	6.62 ft	150.00 ml/min
3/10/2020 11:11 AM	03:00	7.35 pH	50.38 °F	1,151.0 µS/cm	0.11 mg/L	81.2 mV	6.62 ft	150.00 ml/min
3/10/2020 11:14 AM	06:00	7.37 pH	50.06 °F	1,074.5 µS/cm	0.07 mg/L	86.0 mV	6.62 ft	150.00 ml/min
3/10/2020 11:17 AM	09:00	7.41 pH	49.89 °F	823.72 µS/cm	0.25 mg/L	71.2 mV	6.62 ft	150.00 ml/min
3/10/2020 11:20 AM	12:00	7.46 pH	49.77 °F	536.72 µS/cm	0.58 mg/L	57.8 mV	6.62 ft	150.00 ml/min
3/10/2020 11:23 AM	15:00	7.48 pH	49.66 °F	452.88 µS/cm	0.65 mg/L	54.2 mV	6.62 ft	150.00 ml/min
3/10/2020 11:26 AM	18:00	7.50 pH	49.64 °F	391.55 µS/cm	0.88 mg/L	51.2 mV	6.62 ft	150.00 ml/min
3/10/2020 11:29 AM	21:00	7.50 pH	49.63 °F	380.08 µS/cm	1.04 mg/L	49.5 mV	6.62 ft	150.00 ml/min
3/10/2020 11:32 AM	24:00	7.51 pH	49.58 °F	350.71 µS/cm	1.38 mg/L	49.0 mV	6.62 ft	150.00 ml/min
3/10/2020 11:35 AM	27:00	7.50 pH	49.55 °F	345.55 µS/cm	1.54 mg/L	47.9 mV	6.62 ft	150.00 ml/min
3/10/2020 11:38 AM	30:00	7.50 pH	49.55 °F	334.04 µS/cm	1.78 mg/L	47.7 mV	6.62 ft	150.00 ml/min
3/10/2020 11:41 AM	33:00	7.48 pH	49.53 °F	333.82 µS/cm	1.58 mg/L	47.2 mV	6.62 ft	150.00 ml/min
3/10/2020 11:44 AM	36:00	7.47 pH	49.55 °F	339.11 µS/cm	1.72 mg/L	47.3 mV	6.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-512	Sample Time: 1200 Final DTW: 6.62 Final RDO: 1.69

Low-Flow Test Report:

Test Date / Time: 3/10/2020 11:24:21 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-506 Latitude: 47.8063870476646 Longitude: -122.388542555273 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.77 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 4950 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.11 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1201

Final DTW: 6.88 ft btoc

Final RDO: 0.25 mg/L

Weather Conditions:

40F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 11:24 AM	00:00	6.71 pH	50.93 °F	9,791.5 µS/cm	0.90 mg/L	43.1 mV	6.77 ft	150.00 ml/min
3/10/2020 11:27 AM	03:00	6.72 pH	50.75 °F	9,471.1 µS/cm	0.58 mg/L	24.7 mV	6.77 ft	150.00 ml/min
3/10/2020 11:30 AM	06:00	6.72 pH	50.62 °F	9,580.9 µS/cm	0.46 mg/L	11.5 mV	6.77 ft	150.00 ml/min
3/10/2020 11:33 AM	09:00	6.74 pH	50.25 °F	9,001.5 µS/cm	0.43 mg/L	1.1 mV	6.77 ft	150.00 ml/min
3/10/2020 11:36 AM	12:00	6.80 pH	50.83 °F	7,156.1 µS/cm	0.30 mg/L	-15.2 mV	6.77 ft	150.00 ml/min
3/10/2020 11:39 AM	15:00	6.81 pH	50.76 °F	6,493.7 µS/cm	0.27 mg/L	-37.3 mV	6.77 ft	150.00 ml/min
3/10/2020 11:42 AM	18:00	6.81 pH	50.70 °F	6,208.7 µS/cm	0.25 mg/L	-58.9 mV	6.77 ft	150.00 ml/min
3/10/2020 11:45 AM	21:00	6.81 pH	50.63 °F	5,998.2 µS/cm	0.24 mg/L	-74.9 mV	6.77 ft	150.00 ml/min
3/10/2020 11:48 AM	24:00	6.81 pH	50.57 °F	5,894.6 µS/cm	0.26 mg/L	-84.2 mV	6.77 ft	150.00 ml/min
3/10/2020 11:51 AM	27:00	6.81 pH	50.57 °F	5,844.5 µS/cm	0.25 mg/L	-91.0 mV	6.77 ft	150.00 ml/min
3/10/2020 11:54 AM	30:00	6.81 pH	50.57 °F	5,768.3 µS/cm	0.26 mg/L	-95.9 mV	6.77 ft	150.00 ml/min

3/10/2020 11:57 AM	33:00	6.81 pH	50.60 °F	5,682.8 µS/cm	0.25 mg/L	-100.9 mV	6.77 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-506	Sample Time: 1201

Low-Flow Test Report:

Test Date / Time: 3/10/2020 12:28:31 PM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-511 Latitude: 47.8056383048409 Longitude: -122.389436401427 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.03 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 6672.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1311

Final DTW: 8.08 ft btoc

Final RDO: 4.39 mg/L

Specific Conductivity did not stabilize after 45 minutes.

Weather Conditions:

40F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/10/2020 12:28 PM	00:00	6.80 pH	50.41 °F	350.36 µS/cm	5.22 mg/L	-25.1 mV	8.03 ft	150.00 ml/min
3/10/2020 12:31 PM	03:00	6.66 pH	50.34 °F	333.71 µS/cm	4.85 mg/L	54.0 mV	8.03 ft	150.00 ml/min
3/10/2020 12:34 PM	06:00	6.65 pH	50.39 °F	325.87 µS/cm	4.66 mg/L	77.7 mV	8.03 ft	150.00 ml/min
3/10/2020 12:37 PM	09:00	6.62 pH	50.37 °F	329.76 µS/cm	4.51 mg/L	102.1 mV	8.03 ft	150.00 ml/min
3/10/2020 12:40 PM	12:00	6.62 pH	50.36 °F	308.23 µS/cm	4.33 mg/L	117.4 mV	8.03 ft	150.00 ml/min
3/10/2020 12:43 PM	14:29	6.63 pH	50.33 °F	323.76 µS/cm	4.27 mg/L	129.5 mV	8.03 ft	150.00 ml/min
3/10/2020 12:46 PM	17:29	6.62 pH	50.20 °F	318.11 µS/cm	4.21 mg/L	137.1 mV	8.03 ft	150.00 ml/min
3/10/2020 12:49 PM	20:29	6.62 pH	50.22 °F	324.66 µS/cm	4.16 mg/L	142.1 mV	8.03 ft	150.00 ml/min
3/10/2020 12:52 PM	23:29	6.61 pH	50.24 °F	324.09 µS/cm	4.15 mg/L	145.3 mV	8.03 ft	150.00 ml/min
3/10/2020 12:55 PM	26:29	6.61 pH	50.14 °F	322.59 µS/cm	4.15 mg/L	149.1 mV	8.03 ft	150.00 ml/min

3/10/2020 12:58 PM	29:29	6.60 pH	50.40 °F	318.71 µS/cm	4.52 mg/L	157.0 mV	8.03 ft	150.00 ml/min
3/10/2020 1:01 PM	32:29	6.59 pH	50.42 °F	319.00 µS/cm	4.50 mg/L	158.4 mV	8.03 ft	150.00 ml/min
3/10/2020 1:04 PM	35:29	6.59 pH	50.28 °F	318.79 µS/cm	4.52 mg/L	162.2 mV	8.03 ft	150.00 ml/min
3/10/2020 1:07 PM	38:29	6.58 pH	50.52 °F	282.52 µS/cm	4.32 mg/L	162.5 mV	8.03 ft	150.00 ml/min
3/10/2020 1:10 PM	41:29	6.59 pH	50.54 °F	311.98 µS/cm	4.22 mg/L	163.9 mV	8.03 ft	150.00 ml/min
3/10/2020 1:13 PM	44:29	6.58 pH	50.54 °F	325.91 µS/cm	4.39 mg/L	167.1 mV	8.03 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-511	Sample Time: 1311

Low-Flow Test Report:

Test Date / Time: 3/11/2020 8:48:39 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

<p>Location Name: MW-104 Latitude: 47.8060089620359 Longitude: -122.390532754362 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.05 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.19 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206</p>
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Test Notes:

Sample Time: 0921

Final DTW: 8.26 ft btoc

Final RDO: 0.26 mg/L

DUP-3 collected

Weather Conditions:

40F, mostly clear

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 8:48 AM	00:00	6.66 pH	51.94 °F	1,047.8 µS/cm	1.01 mg/L	91.5 mV	8.05 ft	150.00 ml/min
3/11/2020 8:51 AM	03:00	6.62 pH	51.79 °F	1,053.2 µS/cm	0.40 mg/L	84.7 mV	8.05 ft	150.00 ml/min
3/11/2020 8:54 AM	06:00	6.62 pH	51.77 °F	1,040.2 µS/cm	0.37 mg/L	82.6 mV	8.05 ft	150.00 ml/min
3/11/2020 8:57 AM	09:00	6.62 pH	51.59 °F	1,036.0 µS/cm	0.30 mg/L	80.2 mV	8.05 ft	150.00 ml/min
3/11/2020 9:00 AM	12:00	6.62 pH	51.78 °F	1,026.0 µS/cm	0.30 mg/L	76.8 mV	8.05 ft	150.00 ml/min
3/11/2020 9:03 AM	15:00	6.63 pH	51.74 °F	1,045.2 µS/cm	0.26 mg/L	74.3 mV	8.05 ft	150.00 ml/min
3/11/2020 9:06 AM	18:00	6.64 pH	51.75 °F	1,048.9 µS/cm	0.33 mg/L	71.3 mV	8.05 ft	150.00 ml/min
3/11/2020 9:09 AM	21:00	6.63 pH	51.76 °F	1,016.6 µS/cm	0.24 mg/L	68.2 mV	8.05 ft	150.00 ml/min
3/11/2020 9:12 AM	24:00	6.64 pH	51.75 °F	1,004.8 µS/cm	0.28 mg/L	65.6 mV	8.05 ft	150.00 ml/min
3/11/2020 9:15 AM	27:00	6.63 pH	51.71 °F	983.95 µS/cm	0.26 mg/L	64.2 mV	8.05 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-104	Sample Time: 0921
DUP-3	Sample Time:

Low-Flow Test Report:

Test Date / Time: 3/11/2020 8:56:15 AM

Project: Edmonds Terminal #120 (9)

Operator Name: BT

<p>Location Name: MW-526 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.49 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.41 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 8:56 AM	00:00	7.07 pH	57.19 °F	715.82 µS/cm	7.91 mg/L	98.8 mV	5.49 ft	150.00 ml/min
3/11/2020 8:59 AM	03:00	6.52 pH	52.05 °F	200.58 µS/cm	0.24 mg/L	137.6 mV	5.49 ft	150.00 ml/min
3/11/2020 9:02 AM	06:00	6.51 pH	50.65 °F	181.89 µS/cm	0.47 mg/L	144.5 mV	5.49 ft	150.00 ml/min
3/11/2020 9:05 AM	09:00	6.50 pH	49.85 °F	173.64 µS/cm	1.61 mg/L	149.4 mV	5.49 ft	150.00 ml/min
3/11/2020 9:08 AM	12:00	6.49 pH	49.45 °F	174.70 µS/cm	1.87 mg/L	148.6 mV	5.49 ft	150.00 ml/min
3/11/2020 9:11 AM	15:00	6.48 pH	49.15 °F	169.46 µS/cm	2.34 mg/L	143.0 mV	5.49 ft	150.00 ml/min
3/11/2020 9:14 AM	18:00	6.45 pH	48.84 °F	175.39 µS/cm	2.93 mg/L	144.6 mV	5.49 ft	150.00 ml/min
3/11/2020 9:17 AM	21:00	6.43 pH	49.19 °F	179.60 µS/cm	2.93 mg/L	145.3 mV	5.49 ft	150.00 ml/min
3/11/2020 9:20 AM	24:00	6.40 pH	48.65 °F	189.98 µS/cm	2.79 mg/L	144.6 mV	5.49 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-526	Sample Time: 0930 Final RDO: 2.70 Final DTW: 5.90

Low-Flow Test Report:

Test Date / Time: 3/11/2020 9:02:00 AM

Project: Edmonds Terminal 1Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-8R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.3 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 11 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 9:02 AM	00:00	7.12 pH	46.42 °F	412.77 µS/cm	7.16 mg/L	244.9 mV	8.30 ft	150.00 ml/min
3/11/2020 9:05 AM	03:00	6.86 pH	47.48 °F	392.58 µS/cm	1.66 mg/L	218.7 mV	8.30 ft	150.00 ml/min
3/11/2020 9:08 AM	06:00	6.80 pH	47.75 °F	388.60 µS/cm	1.41 mg/L	219.5 mV	8.30 ft	150.00 ml/min
3/11/2020 9:11 AM	09:00	6.78 pH	47.90 °F	385.73 µS/cm	1.25 mg/L	221.2 mV	8.30 ft	150.00 ml/min
3/11/2020 9:14 AM	12:00	6.78 pH	47.99 °F	379.61 µS/cm	1.28 mg/L	222.9 mV	8.30 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-8R	Sample Time 9:22 Final DTW 8.30 ft btoc Final RDO 1.28 mg/L

Low-Flow Test Report:

Test Date / Time: 3/11/2020 9:57:58 AM

Project: Edmonds Terminal 1Q20 (2)

Operator Name: Daniel Sly Gilbert

<p>Location Name: MW-20R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4 ft Total Depth: 14.5 ft Initial Depth to Water: 6.38 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 11 ft Estimated Total Volume Pumped: 5375 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.2 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586</p>
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 9:57 AM	00:00	6.68 pH	48.15 °F	3,338.9 µS/cm	10.90 mg/L	259.9 mV	6.38 ft	150.00 ml/min
3/11/2020 10:00 AM	03:00	6.16 pH	49.14 °F	8,097.5 µS/cm	3.29 mg/L	234.7 mV	6.38 ft	150.00 ml/min
3/11/2020 10:03 AM	06:00	6.38 pH	49.36 °F	8,878.9 µS/cm	1.42 mg/L	220.9 mV	6.38 ft	150.00 ml/min
3/11/2020 10:06 AM	09:00	6.43 pH	49.28 °F	8,814.6 µS/cm	1.91 mg/L	222.0 mV	6.38 ft	150.00 ml/min
3/11/2020 10:09 AM	12:00	6.45 pH	49.20 °F	8,789.3 µS/cm	2.01 mg/L	221.5 mV	6.38 ft	150.00 ml/min
3/11/2020 10:12 AM	15:00	6.50 pH	49.20 °F	8,340.7 µS/cm	2.02 mg/L	200.5 mV	6.38 ft	150.00 ml/min
3/11/2020 10:15 AM	18:00	6.48 pH	49.62 °F	8,978.9 µS/cm	2.13 mg/L	205.6 mV	6.38 ft	150.00 ml/min
3/11/2020 10:17 AM	19:12	6.49 pH	49.70 °F	9,645.1 µS/cm	1.96 mg/L	204.6 mV	6.38 ft	150.00 ml/min
3/11/2020 10:20 AM	22:12	6.53 pH	49.80 °F	9,358.5 µS/cm	1.89 mg/L	174.0 mV	6.38 ft	150.00 ml/min
3/11/2020 10:23 AM	25:12	6.55 pH	49.92 °F	9,478.5 µS/cm	1.82 mg/L	158.5 mV	6.38 ft	150.00 ml/min
3/11/2020 10:26 AM	28:12	6.59 pH	49.93 °F	9,168.0 µS/cm	2.12 mg/L	149.3 mV	6.38 ft	150.00 ml/min
3/11/2020 10:29 AM	31:12	6.59 pH	50.00 °F	9,539.2 µS/cm	1.89 mg/L	147.7 mV	6.38 ft	150.00 ml/min
3/11/2020 10:32 AM	34:12	6.60 pH	50.04 °F	9,790.1 µS/cm	2.06 mg/L	142.8 mV	6.38 ft	150.00 ml/min

3/11/2020 10:33 AM	35:50	6.61 pH	50.08 °F	9,586.1 µS/cm	1.84 mg/L	138.4 mV	6.38 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-20	Sample time 10:42 Final DTW 6.58 ft btoc Final RDO 1.84 mg/L

Low-Flow Test Report:

Test Date / Time: 3/11/2020 9:59:56 AM

Project: Edmonds Terminal #120 (10)

Operator Name: BT

<p>Location Name: MW-525 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.31 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.72 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 9:59 AM	00:00	6.37 pH	49.88 °F	616.18 µS/cm	6.25 mg/L	156.2 mV	6.31 ft	150.00 ml/min
3/11/2020 10:02 AM	03:00	6.24 pH	49.76 °F	544.81 µS/cm	1.03 mg/L	179.4 mV	6.31 ft	150.00 ml/min
3/11/2020 10:05 AM	06:00	6.26 pH	49.75 °F	983.51 µS/cm	2.39 mg/L	188.1 mV	6.31 ft	150.00 ml/min
3/11/2020 10:08 AM	09:00	6.29 pH	49.88 °F	1,247.9 µS/cm	2.95 mg/L	192.2 mV	6.31 ft	150.00 ml/min
3/11/2020 10:11 AM	12:00	6.31 pH	50.16 °F	841.69 µS/cm	3.40 mg/L	194.3 mV	6.31 ft	150.00 ml/min
3/11/2020 10:14 AM	15:00	6.43 pH	50.29 °F	2,442.0 µS/cm	1.79 mg/L	198.3 mV	6.31 ft	150.00 ml/min
3/11/2020 10:17 AM	18:00	6.45 pH	50.24 °F	2,414.1 µS/cm	1.91 mg/L	197.7 mV	6.31 ft	150.00 ml/min
3/11/2020 10:20 AM	21:00	6.47 pH	50.32 °F	2,429.7 µS/cm	1.91 mg/L	183.6 mV	6.31 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-525	Sample Time: 1030 Final RDO: 1.91 Final DTW: 8.03

Low-Flow Test Report:

Test Date / Time: 3/11/2020 9:59:58 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-ER Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.95 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 7.7 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1051

Final DTW: 7.70 ft btoc

Final RDO: 0.15 mg/L

Weather Conditions:

45F, mostly sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 9:59 AM	00:00	6.79 pH	53.68 °F	1,379.2 µS/cm	1.25 mg/L	-73.8 mV	6.95 ft	150.00 ml/min
3/11/2020 10:02 AM	03:00	6.79 pH	53.60 °F	1,392.1 µS/cm	0.58 mg/L	-88.5 mV	6.95 ft	150.00 ml/min
3/11/2020 10:05 AM	06:00	6.79 pH	53.81 °F	1,382.6 µS/cm	0.57 mg/L	-97.2 mV	6.95 ft	150.00 ml/min
3/11/2020 10:08 AM	09:00	6.79 pH	53.93 °F	1,383.4 µS/cm	0.45 mg/L	-104.3 mV	6.95 ft	150.00 ml/min
3/11/2020 10:11 AM	12:00	6.79 pH	53.94 °F	1,367.6 µS/cm	0.24 mg/L	-111.6 mV	6.95 ft	150.00 ml/min
3/11/2020 10:14 AM	15:00	6.80 pH	53.73 °F	1,377.3 µS/cm	0.22 mg/L	-115.3 mV	6.95 ft	150.00 ml/min
3/11/2020 10:17 AM	18:00	6.79 pH	53.25 °F	1,359.1 µS/cm	0.19 mg/L	-120.4 mV	6.95 ft	150.00 ml/min
3/11/2020 10:20 AM	21:00	6.79 pH	53.65 °F	1,311.3 µS/cm	0.21 mg/L	-123.2 mV	6.95 ft	150.00 ml/min
3/11/2020 10:23 AM	24:00	6.79 pH	53.44 °F	1,303.4 µS/cm	0.18 mg/L	-129.3 mV	6.95 ft	150.00 ml/min
3/11/2020 10:26 AM	27:00	6.80 pH	53.13 °F	1,382.9 µS/cm	0.21 mg/L	-130.2 mV	6.95 ft	150.00 ml/min
3/11/2020 10:29 AM	30:00	6.80 pH	53.13 °F	1,376.3 µS/cm	0.16 mg/L	-134.3 mV	6.95 ft	150.00 ml/min

3/11/2020 10:32 AM	33:00	6.79 pH	53.54 °F	1,400.4 µS/cm	0.18 mg/L	-136.2 mV	6.95 ft	150.00 ml/min
3/11/2020 10:35 AM	36:00	6.79 pH	53.34 °F	1,245.1 µS/cm	0.15 mg/L	-139.4 mV	6.95 ft	150.00 ml/min
3/11/2020 10:38 AM	39:00	6.80 pH	52.97 °F	1,369.7 µS/cm	0.17 mg/L	-142.6 mV	6.95 ft	150.00 ml/min
3/11/2020 10:41 AM	42:00	6.80 pH	52.86 °F	1,357.4 µS/cm	0.15 mg/L	-145.9 mV	6.95 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-ER	Sample Time: 1051

Low-Flow Test Report:

Test Date / Time: 3/11/2020 11:02:39 AM

Project: Edmonds Terminal #120 (11)

Operator Name: BT

Location Name: MW-531 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.67 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.18 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 11:02 AM	00:00	7.26 pH	51.71 °F	598.65 µS/cm	7.44 mg/L	148.3 mV	7.67 ft	150.00 ml/min
3/11/2020 11:05 AM	03:00	7.27 pH	49.68 °F	563.42 µS/cm	1.39 mg/L	150.5 mV	7.67 ft	150.00 ml/min
3/11/2020 11:08 AM	06:00	7.32 pH	49.21 °F	553.00 µS/cm	1.75 mg/L	150.7 mV	7.67 ft	150.00 ml/min
3/11/2020 11:11 AM	09:00	7.36 pH	49.05 °F	550.51 µS/cm	2.06 mg/L	150.8 mV	7.67 ft	150.00 ml/min
3/11/2020 11:14 AM	12:00	7.40 pH	49.01 °F	542.51 µS/cm	2.47 mg/L	150.7 mV	7.67 ft	150.00 ml/min
3/11/2020 11:17 AM	15:00	7.41 pH	48.90 °F	530.25 µS/cm	2.75 mg/L	151.3 mV	7.67 ft	150.00 ml/min
3/11/2020 11:20 AM	18:00	7.42 pH	48.92 °F	523.07 µS/cm	3.05 mg/L	151.8 mV	7.67 ft	150.00 ml/min
3/11/2020 11:23 AM	21:00	7.42 pH	48.84 °F	520.07 µS/cm	2.87 mg/L	152.9 mV	7.67 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-531	Sample Time: 1130 Final RDO: 2.87 Final DTW: 7.85

Low-Flow Test Report:

Test Date / Time: 3/11/2020 11:15:22 AM

Project: Edmonds Terminal 1Q20 (3)

Operator Name: Daniel Sly Gilbert

Location Name: MW-101 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 9.02 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 11 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.45 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 11:15 AM	00:00	6.67 pH	51.96 °F	3,195.1 µS/cm	2.83 mg/L	132.3 mV	9.02 ft	150.00 ml/min
3/11/2020 11:18 AM	03:00	6.60 pH	52.91 °F	3,131.3 µS/cm	0.23 mg/L	106.3 mV	9.02 ft	150.00 ml/min
3/11/2020 11:21 AM	06:00	6.61 pH	53.34 °F	2,936.0 µS/cm	0.19 mg/L	94.6 mV	9.02 ft	150.00 ml/min
3/11/2020 11:24 AM	09:00	6.63 pH	53.40 °F	2,714.0 µS/cm	0.36 mg/L	86.3 mV	9.02 ft	150.00 ml/min
3/11/2020 11:27 AM	12:00	6.65 pH	53.49 °F	2,490.5 µS/cm	0.47 mg/L	76.9 mV	9.02 ft	150.00 ml/min
3/11/2020 11:30 AM	15:00	6.66 pH	53.53 °F	2,402.1 µS/cm	0.58 mg/L	67.6 mV	9.02 ft	150.00 ml/min
3/11/2020 11:33 AM	18:00	6.67 pH	53.57 °F	2,310.8 µS/cm	0.67 mg/L	61.8 mV	9.02 ft	150.00 ml/min
3/11/2020 11:36 AM	21:00	6.68 pH	53.61 °F	2,258.5 µS/cm	0.68 mg/L	55.9 mV	9.02 ft	150.00 ml/min
3/11/2020 11:39 AM	24:00	6.69 pH	53.65 °F	2,173.9 µS/cm	0.70 mg/L	51.8 mV	9.02 ft	150.00 ml/min
3/11/2020 11:42 AM	27:00	6.68 pH	53.72 °F	2,173.1 µS/cm	0.67 mg/L	49.2 mV	9.02 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-101	Sample Time 11:52 Final DTW 9.47 ft btoc Final RDO 0.67 mg/L Dup-2
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Low-Flow Test Report:

Test Date / Time: 3/11/2020 11:25:18 AM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: MW-129R Latitude: 47.8057781460496 Longitude: -122.387604787946 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.31 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.39 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1141

Final DTW: 6.70 ft btoc

Final RDO: 0.18 mg/L

Weather Conditions:

45F, partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 11:25 AM	00:00	6.89 pH	49.73 °F	1,078.4 µS/cm	0.29 mg/L	-82.3 mV	5.31 ft	150.00 ml/min
3/11/2020 11:28 AM	03:00	6.89 pH	49.49 °F	1,128.7 µS/cm	0.18 mg/L	-92.2 mV	5.31 ft	150.00 ml/min
3/11/2020 11:31 AM	06:00	6.89 pH	49.96 °F	1,136.4 µS/cm	0.17 mg/L	-98.4 mV	5.31 ft	150.00 ml/min
3/11/2020 11:34 AM	09:00	6.90 pH	49.77 °F	1,136.8 µS/cm	0.16 mg/L	-101.9 mV	5.31 ft	150.00 ml/min
3/11/2020 11:37 AM	12:00	6.90 pH	49.59 °F	1,130.8 µS/cm	0.19 mg/L	-104.4 mV	5.31 ft	150.00 ml/min
3/11/2020 11:40 AM	15:00	6.90 pH	49.57 °F	1,128.1 µS/cm	0.18 mg/L	-106.9 mV	5.31 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-129R	Sample Time: 1141
DUP-4	Sample Time:

Low-Flow Test Report:

Test Date / Time: 3/11/2020 11:57:41 AM

Project: Edmonds Terminal #120 (12)

Operator Name: BT

Location Name: MW-532 Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.41 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.17 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.97 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689
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Test Notes:

Forgot to write down final RDO, see table

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 11:57 AM	00:00	7.06 pH	51.35 °F	186.67 µS/cm	8.50 mg/L	172.3 mV	7.41 ft	150.00 ml/min
3/11/2020 12:00 PM	03:00	6.78 pH	49.73 °F	185.74 µS/cm	7.06 mg/L	179.8 mV	7.41 ft	150.00 ml/min
3/11/2020 12:03 PM	06:00	6.78 pH	49.25 °F	187.62 µS/cm	7.10 mg/L	187.6 mV	7.41 ft	150.00 ml/min
3/11/2020 12:06 PM	09:00	6.75 pH	49.15 °F	184.75 µS/cm	7.27 mg/L	194.8 mV	7.41 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-531	Sample Time: 1220 Final RDO: Final DTW: 8.38

Low-Flow Test Report:

Test Date / Time: 3/11/2020 12:39:42 PM

Project: Edmonds Terminal 1Q20

Operator Name: RWB

Location Name: LM-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 5.5 ft Top of Screen: 2.5 ft Total Depth: 8 ft Initial Depth to Water: 1.58 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 4 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.27 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Sample Time: 1331

Final DTW: 2.82 ft btoc

Final RDO: 0.15 mg/L

RDO did not stabilize after 45 minutes.

Weather Conditions:

50F, mostly sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 12:39 PM	00:00	6.01 pH	53.45 °F	10,568 µS/cm	2.58 mg/L	-16.7 mV	1.58 ft	150.00 ml/min
3/11/2020 12:42 PM	03:00	5.99 pH	53.89 °F	10,821 µS/cm	0.67 mg/L	-22.6 mV	1.58 ft	150.00 ml/min
3/11/2020 12:45 PM	06:00	5.98 pH	56.73 °F	10,745 µS/cm	0.62 mg/L	-26.5 mV	1.58 ft	150.00 ml/min
3/11/2020 12:48 PM	09:00	5.98 pH	57.93 °F	10,748 µS/cm	0.60 mg/L	-29.1 mV	1.58 ft	150.00 ml/min
3/11/2020 12:51 PM	12:00	5.98 pH	51.49 °F	10,805 µS/cm	0.28 mg/L	-32.2 mV	1.58 ft	150.00 ml/min
3/11/2020 12:54 PM	15:00	6.00 pH	51.03 °F	10,836 µS/cm	0.16 mg/L	-40.3 mV	1.58 ft	150.00 ml/min
3/11/2020 12:57 PM	18:00	6.01 pH	51.02 °F	10,834 µS/cm	0.13 mg/L	-44.1 mV	1.58 ft	150.00 ml/min
3/11/2020 1:00 PM	21:00	6.01 pH	51.22 °F	10,807 µS/cm	0.14 mg/L	-48.5 mV	1.58 ft	150.00 ml/min
3/11/2020 1:03 PM	24:00	6.02 pH	50.86 °F	10,712 µS/cm	0.12 mg/L	-54.2 mV	1.58 ft	150.00 ml/min
3/11/2020 1:06 PM	27:00	6.03 pH	50.87 °F	10,624 µS/cm	0.16 mg/L	-57.5 mV	1.58 ft	150.00 ml/min

3/11/2020 1:09 PM	30:00	6.04 pH	51.34 °F	10,489 µS/cm	0.15 mg/L	-57.6 mV	1.58 ft	150.00 ml/min
3/11/2020 1:12 PM	33:00	6.05 pH	51.72 °F	10,360 µS/cm	0.26 mg/L	-59.7 mV	1.58 ft	150.00 ml/min
3/11/2020 1:15 PM	36:00	6.05 pH	52.17 °F	10,194 µS/cm	0.20 mg/L	-62.0 mV	1.58 ft	150.00 ml/min
3/11/2020 1:18 PM	39:00	6.06 pH	51.87 °F	10,096 µS/cm	0.24 mg/L	-65.0 mV	1.58 ft	150.00 ml/min
3/11/2020 1:21 PM	42:00	6.05 pH	53.36 °F	10,064 µS/cm	0.28 mg/L	-66.8 mV	1.58 ft	150.00 ml/min
3/11/2020 1:24 PM	45:00	6.07 pH	50.94 °F	9,945.7 µS/cm	0.15 mg/L	-72.2 mV	1.58 ft	150.00 ml/min

Samples

Sample ID:	Description:
LM-2	Sample Time: 1331

Low-Flow Test Report:

Test Date / Time: 3/11/2020 12:47:33 PM

Project: Edmonds Terminal 1Q20 (5)

Operator Name: Daniel Sly Gilbert

<p>Location Name: MW-513 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.5 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 6352.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466689</p>
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/11/2020 12:47 PM	00:00	6.51 pH	52.08 °F	13,404 µS/cm	0.32 mg/L	-1.6 mV	4.50 ft	150.00 ml/min
3/11/2020 12:50 PM	03:00	6.56 pH	51.59 °F	11,980 µS/cm	0.09 mg/L	-2.6 mV	4.50 ft	150.00 ml/min
3/11/2020 12:53 PM	06:00	6.72 pH	51.25 °F	6,352.8 µS/cm	1.08 mg/L	2.8 mV	4.50 ft	150.00 ml/min
3/11/2020 12:56 PM	09:00	6.76 pH	51.24 °F	4,679.7 µS/cm	1.94 mg/L	10.8 mV	4.50 ft	150.00 ml/min
3/11/2020 12:59 PM	12:00	6.86 pH	51.16 °F	4,176.0 µS/cm	2.59 mg/L	9.3 mV	4.50 ft	150.00 ml/min
3/11/2020 1:02 PM	15:00	6.89 pH	51.16 °F	3,762.9 µS/cm	2.54 mg/L	9.2 mV	4.50 ft	150.00 ml/min
3/11/2020 1:05 PM	18:00	6.90 pH	51.22 °F	3,713.6 µS/cm	2.58 mg/L	7.6 mV	4.50 ft	150.00 ml/min
3/11/2020 1:08 PM	21:00	6.89 pH	51.35 °F	4,047.0 µS/cm	2.67 mg/L	8.1 mV	4.50 ft	150.00 ml/min
3/11/2020 1:11 PM	24:00	6.94 pH	51.30 °F	3,395.7 µS/cm	2.77 mg/L	4.0 mV	4.50 ft	150.00 ml/min
3/11/2020 1:14 PM	27:00	6.93 pH	51.41 °F	3,220.1 µS/cm	2.91 mg/L	2.2 mV	4.50 ft	150.00 ml/min
3/11/2020 1:17 PM	30:00	6.93 pH	51.53 °F	3,866.8 µS/cm	2.87 mg/L	-0.5 mV	4.50 ft	150.00 ml/min
3/11/2020 1:20 PM	33:00	6.97 pH	51.44 °F	3,177.0 µS/cm	3.40 mg/L	2.8 mV	4.50 ft	150.00 ml/min
3/11/2020 1:23 PM	36:00	6.96 pH	51.56 °F	3,582.7 µS/cm	3.36 mg/L	3.3 mV	4.50 ft	150.00 ml/min

3/11/2020 1:26 PM	39:00	6.98 pH	51.48 °F	3,415.1 µS/cm	3.70 mg/L	4.8 mV	4.50 ft	150.00 ml/min
3/11/2020 1:29 PM	42:00	6.98 pH	51.58 °F	3,467.4 µS/cm	3.55 mg/L	2.0 mV	4.50 ft	150.00 ml/min
3/11/2020 1:29 PM	42:21	6.98 pH	51.60 °F	3,456.1 µS/cm	3.59 mg/L	2.6 mV	4.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-513	Sample time 13:32 Final DTW 4.5 ft btoc Final RDO 3.59 mg/L

Low-Flow Test Report:

Test Date / Time: 3/12/2020 8:57:01 AM

Project: Edmonds Terminal 1Q20 (6)

Operator Name: Daniel Sly Gilbert

Location Name: MW-533 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.6 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/12/2020 8:57 AM	00:00	6.48 pH	54.83 °F	30,453 µS/cm	7.49 mg/L	117.3 mV	4.60 ft	150.00 ml/min
3/12/2020 9:00 AM	03:00	6.61 pH	51.17 °F	33,125 µS/cm	7.38 mg/L	127.5 mV	4.60 ft	150.00 ml/min
3/12/2020 9:03 AM	06:00	6.67 pH	49.81 °F	33,760 µS/cm	7.53 mg/L	128.9 mV	4.60 ft	150.00 ml/min
3/12/2020 9:06 AM	09:00	6.71 pH	48.98 °F	34,218 µS/cm	7.63 mg/L	128.9 mV	4.60 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-533	Sample time 9:12 Final DTW 4.60 Final RDO 7.63

Low-Flow Test Report:

Test Date / Time: 3/12/2020 9:51:32 AM

Project: Edmonds Terminal 1Q20 (7)

Operator Name: Daniel Sly Gilbert

Location Name: MW-534 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.45 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.14 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/12/2020 9:51 AM	00:00	7.52 pH	51.64 °F	1,065.9 µS/cm	4.06 mg/L	53.6 mV	3.45 ft	150.00 ml/min
3/12/2020 9:54 AM	03:00	7.02 pH	50.53 °F	572.66 µS/cm	0.13 mg/L	7.9 mV	3.45 ft	150.00 ml/min
3/12/2020 9:57 AM	06:00	6.99 pH	50.42 °F	593.29 µS/cm	0.06 mg/L	1.1 mV	3.45 ft	150.00 ml/min
3/12/2020 10:00 AM	09:00	6.97 pH	50.40 °F	736.72 µS/cm	0.03 mg/L	-4.7 mV	3.45 ft	150.00 ml/min
3/12/2020 10:03 AM	12:00	6.96 pH	50.43 °F	880.68 µS/cm	0.02 mg/L	-11.3 mV	3.45 ft	150.00 ml/min
3/12/2020 10:06 AM	15:00	6.94 pH	50.49 °F	958.92 µS/cm	0.02 mg/L	-16.9 mV	3.45 ft	150.00 ml/min
3/12/2020 10:09 AM	18:00	6.94 pH	50.54 °F	1,076.2 µS/cm	0.02 mg/L	-20.7 mV	3.45 ft	150.00 ml/min
3/12/2020 10:12 AM	21:00	6.93 pH	50.65 °F	1,189.6 µS/cm	0.02 mg/L	-23.7 mV	3.45 ft	150.00 ml/min
3/12/2020 10:15 AM	24:00	6.93 pH	50.58 °F	1,148.1 µS/cm	0.02 mg/L	-27.1 mV	3.45 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-534	Sample time 10:22 Final DTW 3.59 Final RDO 0.02
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 3/12/2020 10:53:15 AM

Project: Edmonds Terminal 1Q20 (8)

Operator Name: Daniel Sly Gilbert

Location Name: MW-535 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.45 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.05 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/12/2020 10:53 AM	00:00	6.49 pH	51.74 °F	26,939 µS/cm	6.92 mg/L	97.9 mV	4.45 ft	150.00 ml/min
3/12/2020 10:56 AM	03:00	6.72 pH	48.66 °F	29,261 µS/cm	4.58 mg/L	100.7 mV	4.45 ft	150.00 ml/min
3/12/2020 10:59 AM	06:00	6.73 pH	48.26 °F	29,609 µS/cm	4.56 mg/L	104.0 mV	4.45 ft	150.00 ml/min
3/12/2020 11:02 AM	09:00	6.73 pH	47.92 °F	29,587 µS/cm	4.56 mg/L	106.8 mV	4.45 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-535	Sample time 11:13 Final DTW 4.50 ft btoc Final RDO 4.56 mg/L

Low-Flow Test Report:

Test Date / Time: 3/12/2020 12:15:54 PM

Project: Edmonds Terminal 1Q20 (9)

Operator Name: Daniel Sly Gilbert

Location Name: MW-530 Well Diameter: 1 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 3 ft Total Depth: 8 ft Initial Depth to Water: 6.53 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 3802.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.7 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
3/12/2020 12:15 PM	00:00	6.86 pH	49.44 °F	13,161 µS/cm	5.51 mg/L	-141.0 mV	6.53 ft	150.00 ml/min
3/12/2020 12:17 PM	01:21	6.67 pH	49.18 °F	15,097 µS/cm	3.21 mg/L	-173.7 mV	6.53 ft	150.00 ml/min
3/12/2020 12:20 PM	04:21	6.70 pH	49.87 °F	17,919 µS/cm	0.16 mg/L	-232.0 mV	6.53 ft	150.00 ml/min
3/12/2020 12:23 PM	07:21	6.70 pH	50.10 °F	18,269 µS/cm	0.07 mg/L	-232.3 mV	6.53 ft	150.00 ml/min
3/12/2020 12:26 PM	10:21	6.71 pH	50.07 °F	18,205 µS/cm	0.06 mg/L	-238.7 mV	6.53 ft	150.00 ml/min
3/12/2020 12:29 PM	13:21	6.71 pH	50.15 °F	17,907 µS/cm	0.04 mg/L	-248.2 mV	6.53 ft	150.00 ml/min
3/12/2020 12:32 PM	16:21	6.71 pH	50.31 °F	17,698 µS/cm	0.03 mg/L	-236.4 mV	6.53 ft	150.00 ml/min
3/12/2020 12:35 PM	19:21	6.71 pH	50.41 °F	17,581 µS/cm	0.02 mg/L	-258.1 mV	6.53 ft	150.00 ml/min
3/12/2020 12:38 PM	22:21	6.71 pH	50.35 °F	17,426 µS/cm	0.02 mg/L	-253.0 mV	6.53 ft	150.00 ml/min
3/12/2020 12:41 PM	25:21	6.71 pH	50.25 °F	17,681 µS/cm	0.01 mg/L	-260.5 mV	6.53 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-530

Sample time 12:52
Final DTW 7.23 ft btoc
Final RDO 0.01 mg/L

Monitoring Wells/Piezometers

Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID
LM-2	1301	1.58	-	0.0	MW-126	1254	5.15	-	0.0	MW-13U	1257	17.12	-	0.0
MW-8R	1315	8.28	-	0.0	MW-143	1257	4.02	-	0.6	MW-108	1304	5.65	-	0.0
MW-20R	1323	6.77	-	0.0	MW-502	1339	5.23	-	0.0	MW-109	1306	6.59	-	0.0
MW-101	1319	9.06	-	0.0	MW-503	1341	5.22	-	0.0	MW-134X	1309	26.25	-	0.0
MW-104	1320	8.36	-	0.0	MW-504	1343	6.62	-	0.0	MW-135	1326	10.69	-	0.0
MW-129R	1345	5.40	-	1.4	MW-505	1339	4.68	-	0.0	MW-136	1347	7.92	-	0.0
MW-139R	1316	7.10	-	0.0	MW-506	1341	6.69	-	0.0	MW-147	1311	5.62	-	0.0
MW-518	1318	8.50	-	0.0	MW-507	1337	6.88	-	0.0	MW-149R	1307	6.88	-	0.0
MW-522	1316	8.27	-	0.0	MW-509	1335	3.56	-	0.0	MW-150	1305	6.63	-	0.0
MW-530	1302	6.71	-	0.0	MW-511	1254	8.10	-	0.0	MW-203	1302	22.48	-	0.0
MW-533	1314	5.08	-	0.0	MW-512	1324	6.58	-	0.0	MW-500	1400	4.60	-	0.0
MW-535	1312	4.88	-	0.0	MW-513	1329	4.40	-	0.0	MW-501	1405	5.21	-	0.2
					MW-514	1328	4.71	-	0.0	MW-523	1313	7.97	-	0.0
					MW-515	1335	4.92	-	0.0	MW-524	1309	7.61	-	0.0
					MW-516	1333	4.58	-	0.0	MW-527	1351	8.84	-	0.0
					MW-517	1331	5.32	-	0.0	MW-528	1333	9.34	-	0.0
					MW-519	1259	7.00	-	0.0					
					MW-520	1301	7.71	-	0.0					
					MW-521	1302	6.61	-	0.0					
					MW-525	1320	6.73	-	6.0					
					MW-526	1326	5.43	-	0.0					
					MW-531	1318	7.66	-	0.0					
					MW-532	1336	7.63	-	0.0					
					MW-534	1333	3.50	-	0.0					
					MW-ER	1342	7.02	-	0.8					

Low-Flow Test Report:

Test Date / Time: 6/24/2020 12:56:11 PM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-520 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.63 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9.5 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Slightly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/24/2020 12:56 PM	00:00	7.18 pH	63.39 °F	736.95 µS/cm	5.05 mg/L	1.75 NTU	30.4 mV	7.63 ft	150.00 ml/min
6/24/2020 12:59 PM	03:00	7.10 pH	62.46 °F	693.61 µS/cm	3.56 mg/L	4.96 NTU	24.4 mV	7.63 ft	150.00 ml/min
6/24/2020 1:02 PM	06:00	7.09 pH	62.36 °F	705.22 µS/cm	2.89 mg/L	5.26 NTU	23.4 mV	7.63 ft	150.00 ml/min
6/24/2020 1:05 PM	09:00	7.06 pH	62.21 °F	711.04 µS/cm	2.35 mg/L	5.77 NTU	23.4 mV	7.63 ft	150.00 ml/min
6/24/2020 1:08 PM	12:00	7.05 pH	62.19 °F	724.48 µS/cm	1.94 mg/L	5.97 NTU	23.8 mV	7.63 ft	150.00 ml/min
6/24/2020 1:11 PM	15:00	7.02 pH	62.10 °F	723.86 µS/cm	1.62 mg/L	5.85 NTU	23.8 mV	7.63 ft	150.00 ml/min
6/24/2020 1:14 PM	18:00	7.01 pH	62.08 °F	730.73 µS/cm	1.58 mg/L	5.98 NTU	24.3 mV	7.63 ft	150.00 ml/min
6/24/2020 1:17 PM	21:00	7.00 pH	61.91 °F	732.97 µS/cm	1.45 mg/L	6.12 NTU	24.4 mV	7.63 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-520	Time 1322 Dtw 7.65 DO 1.45 Iron 0.5
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Low-Flow Test Report:

Test Date / Time: 6/25/2020 8:25:03 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-503 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.12 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.18 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Slightly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/25/2020 8:25 AM	00:00	8.75 pH	60.38 °F	0.39 µS/cm	9.76 mg/L	1.43 NTU	104.8 mV	5.12 ft	150.00 ml/min
6/25/2020 8:28 AM	03:00	6.51 pH	58.22 °F	434.29 µS/cm	0.54 mg/L	4.71 NTU	52.5 mV	5.12 ft	150.00 ml/min
6/25/2020 8:31 AM	06:00	6.48 pH	57.85 °F	435.23 µS/cm	0.29 mg/L	5.74 NTU	46.7 mV	5.12 ft	150.00 ml/min
6/25/2020 8:34 AM	09:00	6.48 pH	57.69 °F	433.52 µS/cm	0.21 mg/L	5.92 NTU	42.4 mV	5.12 ft	150.00 ml/min
6/25/2020 8:37 AM	12:00	6.48 pH	57.54 °F	432.28 µS/cm	0.16 mg/L	6.00 NTU	39.0 mV	5.12 ft	150.00 ml/min
6/25/2020 8:40 AM	15:00	6.48 pH	57.49 °F	430.94 µS/cm	0.14 mg/L	6.33 NTU	36.4 mV	5.12 ft	150.00 ml/min
6/25/2020 8:43 AM	18:00	6.48 pH	57.45 °F	433.00 µS/cm	0.10 mg/L	6.39 NTU	34.0 mV	5.12 ft	150.00 ml/min
6/25/2020 8:46 AM	21:00	6.49 pH	57.36 °F	430.97 µS/cm	0.11 mg/L	6.47 NTU	32.4 mV	5.12 ft	150.00 ml/min
6/25/2020 8:49 AM	24:00	6.48 pH	57.33 °F	432.61 µS/cm	0.09 mg/L	6.57 NTU	31.2 mV	5.12 ft	150.00 ml/min
6/25/2020 8:52 AM	27:00	6.48 pH	57.31 °F	429.98 µS/cm	0.08 mg/L	6.71 NTU	29.2 mV	5.12 ft	150.00 ml/min
6/25/2020 8:55 AM	30:00	6.48 pH	57.32 °F	432.83 µS/cm	0.13 mg/L	6.68 NTU	28.0 mV	5.12 ft	150.00 ml/min
6/25/2020 8:58 AM	33:00	6.48 pH	57.29 °F	433.99 µS/cm	0.06 mg/L	6.78 NTU	27.2 mV	5.12 ft	150.00 ml/min

6/25/2020 9:01 AM	36:00	6.48 pH	57.28 °F	433.59 µS/cm	0.14 mg/L	6.53 NTU	26.1 mV	5.12 ft	150.00 ml/min
6/25/2020 9:04 AM	39:00	6.48 pH	57.40 °F	433.83 µS/cm	0.08 mg/L	6.63 NTU	25.2 mV	5.12 ft	150.00 ml/min
6/25/2020 9:07 AM	42:00	6.48 pH	57.41 °F	433.01 µS/cm	0.08 mg/L	6.61 NTU	24.4 mV	5.12 ft	150.00 ml/min
6/25/2020 9:10 AM	45:00	6.48 pH	57.45 °F	434.33 µS/cm	0.08 mg/L	6.62 NTU	23.5 mV	5.12 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-503	Time 0912 Final dtw: 5.30 DO 0.08 Fe saved in voa

Low-Flow Test Report:

Test Date / Time: 6/25/2020 8:30:54 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-512 Latitude: 47.8058580873122 Longitude: -122.389583922923 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.51 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

63F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 8:30 AM	00:00	6.73 pH	59.17 °F	3,616.8 µS/cm	0.26 mg/L	55.6 mV	6.51 ft	150.00 ml/min
6/25/2020 8:33 AM	03:00	6.69 pH	59.56 °F	1,777.0 µS/cm	0.18 mg/L	0.4 mV	6.51 ft	150.00 ml/min
6/25/2020 8:36 AM	06:00	6.68 pH	59.66 °F	903.02 µS/cm	0.16 mg/L	-14.4 mV	6.51 ft	150.00 ml/min
6/25/2020 8:39 AM	09:00	6.66 pH	59.70 °F	803.60 µS/cm	0.14 mg/L	-20.8 mV	6.51 ft	150.00 ml/min
6/25/2020 8:42 AM	12:00	6.67 pH	59.66 °F	733.81 µS/cm	0.14 mg/L	-24.7 mV	6.51 ft	150.00 ml/min
6/25/2020 8:45 AM	15:00	6.66 pH	59.71 °F	677.79 µS/cm	0.17 mg/L	-26.4 mV	6.51 ft	150.00 ml/min
6/25/2020 8:48 AM	18:00	6.66 pH	59.69 °F	684.64 µS/cm	0.14 mg/L	-27.9 mV	6.51 ft	150.00 ml/min
6/25/2020 8:51 AM	21:00	6.66 pH	59.69 °F	703.21 µS/cm	0.16 mg/L	-28.9 mV	6.51 ft	150.00 ml/min
6/25/2020 8:54 AM	24:00	6.66 pH	59.68 °F	716.74 µS/cm	0.12 mg/L	-29.2 mV	6.51 ft	150.00 ml/min
6/25/2020 8:57 AM	27:00	6.66 pH	59.67 °F	693.95 µS/cm	0.13 mg/L	-32.6 mV	6.51 ft	150.00 ml/min
6/25/2020 9:00 AM	30:00	6.66 pH	59.78 °F	703.89 µS/cm	0.13 mg/L	-33.2 mV	6.51 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-512	Sample Time: 0903 Final DTW: 6.51 ft btoc Final RDO: 0.13 mg/L

Low-Flow Test Report:

Test Date / Time: 6/25/2020 8:38:47 AM
Project: Edmonds Terminal 2Q20 MW-521
Operator Name: DSG

Location Name: MW-521 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.52 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8.5 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 8:38 AM	00:00	6.96 pH	58.74 °F	749.46 µS/cm	0.99 mg/L	157.0 mV	6.52 ft	150.00 ml/min
6/25/2020 8:41 AM	03:00	6.76 pH	59.14 °F	702.20 µS/cm	0.62 mg/L	153.9 mV	6.52 ft	150.00 ml/min
6/25/2020 8:44 AM	06:00	6.74 pH	59.63 °F	636.97 µS/cm	0.64 mg/L	151.5 mV	6.52 ft	150.00 ml/min
6/25/2020 8:47 AM	09:00	6.75 pH	59.81 °F	619.89 µS/cm	0.65 mg/L	154.6 mV	6.52 ft	150.00 ml/min
6/25/2020 8:50 AM	12:00	6.74 pH	59.95 °F	602.21 µS/cm	1.02 mg/L	164.3 mV	6.52 ft	150.00 ml/min
6/25/2020 8:53 AM	15:00	6.75 pH	60.02 °F	583.81 µS/cm	1.21 mg/L	159.4 mV	6.52 ft	150.00 ml/min
6/25/2020 8:56 AM	18:00	6.75 pH	60.09 °F	586.32 µS/cm	1.36 mg/L	162.2 mV	6.52 ft	150.00 ml/min
6/25/2020 8:59 AM	21:00	6.76 pH	60.12 °F	587.90 µS/cm	1.39 mg/L	161.1 mV	6.52 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-521	Sample Time: 9:11 Final DTW: 6.52 ft btoc Final RDO: 1.39 mg/L

Low-Flow Test Report:

Test Date / Time: 6/25/2020 9:26:33 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-513 Latitude: 47.806041388785 Longitude: -122.389716356993 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.35 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 9:26 AM	00:00	6.40 pH	58.26 °F	12,877 µS/cm	0.36 mg/L	-7.2 mV	4.35 ft	150.00 ml/min
6/25/2020 9:29 AM	03:00	6.44 pH	58.40 °F	12,921 µS/cm	0.22 mg/L	-24.2 mV	4.35 ft	150.00 ml/min
6/25/2020 9:32 AM	06:00	6.46 pH	58.40 °F	12,908 µS/cm	0.17 mg/L	-33.0 mV	4.35 ft	150.00 ml/min
6/25/2020 9:35 AM	09:00	6.47 pH	58.54 °F	12,887 µS/cm	0.15 mg/L	-38.9 mV	4.35 ft	150.00 ml/min
6/25/2020 9:38 AM	12:00	6.47 pH	58.72 °F	12,849 µS/cm	0.16 mg/L	-42.9 mV	4.35 ft	150.00 ml/min
6/25/2020 9:41 AM	15:00	6.49 pH	58.71 °F	12,842 µS/cm	0.18 mg/L	-45.7 mV	4.35 ft	150.00 ml/min
6/25/2020 9:44 AM	18:00	6.52 pH	58.58 °F	11,561 µS/cm	0.20 mg/L	-47.1 mV	4.35 ft	150.00 ml/min
6/25/2020 9:47 AM	21:00	6.57 pH	58.60 °F	9,584.6 µS/cm	0.27 mg/L	-47.6 mV	4.35 ft	150.00 ml/min
6/25/2020 9:50 AM	24:00	6.60 pH	58.57 °F	8,644.9 µS/cm	0.40 mg/L	-46.9 mV	4.35 ft	150.00 ml/min
6/25/2020 9:53 AM	27:00	6.61 pH	58.71 °F	8,438.6 µS/cm	0.48 mg/L	-46.0 mV	4.35 ft	150.00 ml/min
6/25/2020 9:56 AM	30:00	6.61 pH	58.63 °F	8,109.2 µS/cm	0.56 mg/L	-45.3 mV	4.35 ft	150.00 ml/min
6/25/2020 9:59 AM	33:00	6.62 pH	58.58 °F	7,757.3 µS/cm	0.64 mg/L	-44.6 mV	4.35 ft	150.00 ml/min

6/25/2020 10:02 AM	36:00	6.63 pH	58.70 °F	7,583.7 µS/cm	0.71 mg/L	-44.5 mV	4.35 ft	150.00 ml/min
6/25/2020 10:05 AM	39:00	6.63 pH	58.61 °F	7,405.1 µS/cm	0.77 mg/L	-44.0 mV	4.35 ft	150.00 ml/min
6/25/2020 10:08 AM	42:00	6.63 pH	58.69 °F	7,524.8 µS/cm	0.84 mg/L	-43.0 mV	4.35 ft	150.00 ml/min
6/25/2020 10:11 AM	45:00	6.63 pH	58.72 °F	7,384.5 µS/cm	0.92 mg/L	-42.6 mV	4.35 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-513	<p>Sample Time: 1013 Final DTW: 4.35 ft btoc Final RDO: 0.92 mg/L</p> <p>RDO did not stabilize after 45 minutes.</p>

Low-Flow Test Report:

Test Date / Time: 6/25/2020 9:33:23 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-504 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.55 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8.5 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.05 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/25/2020 9:33 AM	00:00	9.01 pH	61.38 °F	0.32 µS/cm	11.40 mg/L	0.00 NTU	22.4 mV	6.55 ft	150.00 ml/min
6/25/2020 9:36 AM	03:00	6.62 pH	60.13 °F	16,470 µS/cm	0.35 mg/L	0.00 NTU	84.4 mV	6.55 ft	150.00 ml/min
6/25/2020 9:39 AM	06:00	6.77 pH	60.25 °F	10,342 µS/cm	0.69 mg/L	9.01 NTU	67.6 mV	6.55 ft	150.00 ml/min
6/25/2020 9:42 AM	09:00	6.89 pH	60.25 °F	5,271.3 µS/cm	1.14 mg/L	0.00 NTU	47.4 mV	6.55 ft	150.00 ml/min
6/25/2020 9:45 AM	12:00	6.87 pH	60.28 °F	4,880.5 µS/cm	1.11 mg/L	0.80 NTU	45.5 mV	6.55 ft	150.00 ml/min
6/25/2020 9:48 AM	15:00	6.87 pH	60.31 °F	4,932.4 µS/cm	0.76 mg/L	1.93 NTU	44.3 mV	6.55 ft	150.00 ml/min
6/25/2020 9:51 AM	18:00	6.85 pH	60.22 °F	4,915.3 µS/cm	0.55 mg/L	3.31 NTU	43.5 mV	6.55 ft	150.00 ml/min
6/25/2020 9:54 AM	21:00	6.84 pH	60.23 °F	4,932.0 µS/cm	0.48 mg/L	3.87 NTU	42.7 mV	6.55 ft	150.00 ml/min
6/25/2020 9:57 AM	24:00	6.83 pH	60.32 °F	5,076.6 µS/cm	0.45 mg/L	3.64 NTU	42.7 mV	6.55 ft	150.00 ml/min
6/25/2020 10:00 AM	27:00	6.82 pH	60.37 °F	5,150.8 µS/cm	0.44 mg/L	3.91 NTU	42.5 mV	6.55 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-504	Time 1012 Dtw 6.60 DO 0.44 VOA saved for Fe
MW-504/MS	Time 1017
MW-504/MSD	Time 1022

Low-Flow Test Report:

Test Date / Time: 6/25/2020 10:01:16 AM
Project: Edmonds Terminal 2Q20 MW-517
Operator Name: DSG

Location Name: MW-517 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.3 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 10:01 AM	00:00	6.51 pH	61.16 °F	3,712.7 µS/cm	5.12 mg/L	157.2 mV	5.30 ft	150.00 ml/min
6/25/2020 10:04 AM	03:00	6.51 pH	61.31 °F	3,054.4 µS/cm	0.96 mg/L	131.5 mV	5.30 ft	150.00 ml/min
6/25/2020 10:07 AM	06:00	6.53 pH	61.33 °F	2,475.1 µS/cm	1.15 mg/L	112.4 mV	5.30 ft	150.00 ml/min
6/25/2020 10:10 AM	09:00	6.54 pH	61.65 °F	2,139.8 µS/cm	1.12 mg/L	79.6 mV	5.30 ft	150.00 ml/min
6/25/2020 10:13 AM	12:00	6.55 pH	61.68 °F	1,969.3 µS/cm	1.19 mg/L	45.0 mV	5.30 ft	150.00 ml/min
6/25/2020 10:16 AM	15:00	6.57 pH	61.57 °F	1,830.1 µS/cm	1.11 mg/L	19.6 mV	5.30 ft	150.00 ml/min
6/25/2020 10:19 AM	18:00	6.57 pH	61.83 °F	1,863.9 µS/cm	1.11 mg/L	3.7 mV	5.30 ft	150.00 ml/min
6/25/2020 10:22 AM	21:00	6.57 pH	61.94 °F	1,859.5 µS/cm	1.10 mg/L	-8.7 mV	5.30 ft	150.00 ml/min
6/25/2020 10:25 AM	24:00	6.57 pH	61.74 °F	1,833.9 µS/cm	1.02 mg/L	-14.4 mV	5.30 ft	150.00 ml/min
6/25/2020 10:28 AM	27:00	6.57 pH	61.71 °F	1,848.7 µS/cm	1.02 mg/L	-17.1 mV	5.30 ft	150.00 ml/min
6/25/2020 10:31 AM	30:00	6.57 pH	61.75 °F	1,841.6 µS/cm	1.02 mg/L	-18.6 mV	5.30 ft	150.00 ml/min
6/25/2020 10:34 AM	33:00	6.57 pH	61.68 °F	1,852.7 µS/cm	0.96 mg/L	-19.8 mV	5.30 ft	150.00 ml/min
6/25/2020 10:37 AM	36:00	6.57 pH	61.48 °F	1,814.8 µS/cm	1.02 mg/L	-18.0 mV	5.30 ft	150.00 ml/min

6/25/2020 10:40 AM	39:00	6.57 pH	62.01 °F	1,800.6 µS/cm	1.00 mg/L	-16.3 mV	5.30 ft	150.00 ml/min
6/25/2020 10:43 AM	42:00	6.56 pH	62.28 °F	1,812.2 µS/cm	1.07 mg/L	-15.2 mV	5.30 ft	150.00 ml/min
6/25/2020 10:46 AM	45:00	6.56 pH	62.07 °F	1,826.9 µS/cm	1.02 mg/L	-14.3 mV	5.30 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-517	Sample Time: 10:51 Final DTW: 5.30 Final RDO: 1.02 mg/L

Low-Flow Test Report:

Test Date / Time: 6/25/2020 10:33:05 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-514 Latitude: 47.8059740582209 Longitude: -122.389867901802 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.65 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, clearing

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 10:33 AM	00:00	6.48 pH	59.04 °F	3,131.6 µS/cm	0.38 mg/L	-7.1 mV	4.65 ft	150.00 ml/min
6/25/2020 10:36 AM	03:00	6.47 pH	58.87 °F	3,516.6 µS/cm	0.19 mg/L	-4.5 mV	4.65 ft	150.00 ml/min
6/25/2020 10:39 AM	06:00	6.46 pH	59.04 °F	3,492.3 µS/cm	0.16 mg/L	-4.1 mV	4.65 ft	150.00 ml/min
6/25/2020 10:42 AM	09:01	6.45 pH	59.11 °F	3,484.6 µS/cm	0.13 mg/L	-3.9 mV	4.65 ft	150.00 ml/min
6/25/2020 10:45 AM	12:02	6.45 pH	59.32 °F	3,411.2 µS/cm	0.17 mg/L	-3.6 mV	4.65 ft	150.00 ml/min
6/25/2020 10:48 AM	15:02	6.46 pH	59.44 °F	3,307.0 µS/cm	0.24 mg/L	-2.4 mV	4.65 ft	150.00 ml/min
6/25/2020 10:51 AM	18:02	6.47 pH	59.49 °F	3,122.8 µS/cm	0.26 mg/L	-2.1 mV	4.65 ft	150.00 ml/min
6/25/2020 10:54 AM	21:02	6.48 pH	59.46 °F	2,921.4 µS/cm	0.31 mg/L	-2.5 mV	4.65 ft	150.00 ml/min
6/25/2020 10:57 AM	24:02	6.50 pH	59.48 °F	2,789.3 µS/cm	0.32 mg/L	-3.0 mV	4.65 ft	150.00 ml/min
6/25/2020 11:00 AM	27:02	6.51 pH	59.58 °F	2,652.6 µS/cm	0.34 mg/L	-3.3 mV	4.65 ft	150.00 ml/min
6/25/2020 11:03 AM	30:02	6.49 pH	59.38 °F	2,812.7 µS/cm	0.35 mg/L	-3.3 mV	4.65 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-514	Sample Time: 1113 Final DTW: 4.65 ft btoc Final RDO: 0.35 mg/L

Low-Flow Test Report:

Test Date / Time: 6/25/2020 11:08:59 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

<p>Location Name: MW-505 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.64 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.05 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545</p>
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/25/2020 11:08 AM	00:00	9.17 pH	67.73 °F	0.30 µS/cm	10.70 mg/L	0.47 NTU	56.2 mV	4.64 ft	150.00 ml/min
6/25/2020 11:11 AM	03:00	6.61 pH	62.92 °F	974.75 µS/cm	0.41 mg/L	12.90 NTU	22.2 mV	4.64 ft	150.00 ml/min
6/25/2020 11:14 AM	06:00	6.63 pH	62.10 °F	1,824.6 µS/cm	0.27 mg/L	0.39 NTU	27.7 mV	4.64 ft	150.00 ml/min
6/25/2020 11:17 AM	09:00	6.64 pH	61.69 °F	2,601.7 µS/cm	0.22 mg/L	0.77 NTU	29.9 mV	4.64 ft	150.00 ml/min
6/25/2020 11:20 AM	12:00	6.66 pH	61.55 °F	3,195.8 µS/cm	0.18 mg/L	2.10 NTU	29.7 mV	4.64 ft	150.00 ml/min
6/25/2020 11:23 AM	15:00	6.69 pH	61.40 °F	3,403.6 µS/cm	0.15 mg/L	1.34 NTU	26.9 mV	4.64 ft	150.00 ml/min
6/25/2020 11:26 AM	18:00	6.68 pH	61.31 °F	3,981.5 µS/cm	0.13 mg/L	2.45 NTU	26.4 mV	4.64 ft	150.00 ml/min
6/25/2020 11:29 AM	21:00	6.69 pH	61.28 °F	4,308.1 µS/cm	0.13 mg/L	2.92 NTU	24.4 mV	4.64 ft	150.00 ml/min
6/25/2020 11:32 AM	24:00	6.69 pH	61.26 °F	4,561.4 µS/cm	0.15 mg/L	2.59 NTU	22.7 mV	4.64 ft	150.00 ml/min
6/25/2020 11:35 AM	27:00	6.69 pH	61.35 °F	4,939.2 µS/cm	0.13 mg/L	3.17 NTU	20.9 mV	4.64 ft	150.00 ml/min
6/25/2020 11:38 AM	30:00	6.70 pH	61.38 °F	4,881.1 µS/cm	0.15 mg/L	2.99 NTU	19.1 mV	4.64 ft	150.00 ml/min
6/25/2020 11:41 AM	33:00	6.70 pH	61.39 °F	5,045.8 µS/cm	0.14 mg/L	3.04 NTU	17.0 mV	4.64 ft	150.00 ml/min

6/25/2020 11:44 AM	36:00	6.71 pH	61.44 °F	5,092.4 μS/cm	0.15 mg/L	2.97 NTU	15.1 mV	4.64 ft	150.00 ml/min
6/25/2020 11:47 AM	39:00	6.71 pH	61.48 °F	5,156.0 μS/cm	0.15 mg/L	2.97 NTU	13.5 mV	4.64 ft	150.00 ml/min
6/25/2020 11:50 AM	42:00	6.70 pH	61.58 °F	5,457.2 μS/cm	0.16 mg/L	3.10 NTU	13.2 mV	4.64 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-505	Time 1202 Dtw 4.69 DO 0.16 VOA taken for Fe

Low-Flow Test Report:

Test Date / Time: 6/25/2020 11:35:15 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-516 Latitude: 47.8062985502031 Longitude: -122.390109971166 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.52 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/25/2020 11:35 AM	00:00	6.63 pH	62.03 °F	1,813.6 µS/cm	0.19 mg/L	73.1 mV	4.52 ft	150.00 ml/min
6/25/2020 11:38 AM	03:00	6.64 pH	62.25 °F	1,632.2 µS/cm	0.17 mg/L	72.2 mV	4.52 ft	150.00 ml/min
6/25/2020 11:41 AM	06:00	6.65 pH	62.17 °F	1,673.4 µS/cm	0.18 mg/L	71.4 mV	4.52 ft	150.00 ml/min
6/25/2020 11:44 AM	09:00	6.65 pH	62.24 °F	1,635.6 µS/cm	0.20 mg/L	65.3 mV	4.52 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-516	Sample Time: 1153 Final DTW: 4.52 ft btoc Final RDO: 0.20 mg/L

Low-Flow Test Report:

Test Date / Time: 6/25/2020 12:27:09 PM

Project: Edmonds Terminal 2Q20

Operator Name: RK

<p>Location Name: MW-509 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.5 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 6 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545</p>
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/25/2020 12:27 PM	00:00	10.00 pH	66.39 °F	0.31 µS/cm	10.01 mg/L	281.53 NTU	16.7 mV	3.50 m	150.00 ml/min
6/25/2020 12:30 PM	03:00	6.69 pH	61.57 °F	37,441 µS/cm	1.17 mg/L	1.37 NTU	76.2 mV	3.50 m	150.00 ml/min
6/25/2020 12:33 PM	06:00	6.71 pH	61.51 °F	37,698 µS/cm	1.11 mg/L	0.42 NTU	77.0 mV	3.50 m	150.00 ml/min
6/25/2020 12:36 PM	09:00	6.71 pH	61.59 °F	35,071 µS/cm	1.57 mg/L	0.99 NTU	77.4 mV	3.50 m	150.00 ml/min
6/25/2020 12:39 PM	12:00	6.72 pH	61.73 °F	36,354 µS/cm	1.47 mg/L	0.18 NTU	77.4 mV	3.50 m	150.00 ml/min
6/25/2020 12:42 PM	15:00	6.71 pH	62.01 °F	34,504 µS/cm	1.43 mg/L	0.46 NTU	76.7 mV	3.50 m	150.00 ml/min

Samples

Sample ID:	Description:
MW-509	Time 1252 Dtw 3.50 DO 1.43 VOA taken for Fe

Low-Flow Test Report:

Test Date / Time: 6/30/2020 10:58:04 AM
Project: Edmonds Terminal 2Q20 MW-522
Operator Name: DSG

Location Name: MW-522 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.34 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6085 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.2 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:
Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/30/2020 10:58 AM	00:00	6.81 pH	58.62 °F	642.09 µS/cm	1.11 mg/L	11.7 mV	8.34 ft	150.00 ml/min
6/30/2020 11:01 AM	03:00	6.69 pH	57.46 °F	600.85 µS/cm	0.08 mg/L	25.9 mV	8.34 ft	150.00 ml/min
6/30/2020 11:04 AM	06:00	6.66 pH	57.18 °F	600.60 µS/cm	0.04 mg/L	34.0 mV	8.34 ft	150.00 ml/min
6/30/2020 11:07 AM	09:00	6.62 pH	56.87 °F	597.49 µS/cm	0.00 mg/L	31.6 mV	8.34 ft	150.00 ml/min
6/30/2020 11:10 AM	12:00	6.59 pH	56.71 °F	594.15 µS/cm	0.00 mg/L	29.7 mV	8.34 ft	150.00 ml/min
6/30/2020 11:13 AM	15:00	6.61 pH	56.50 °F	586.83 µS/cm	0.00 mg/L	26.2 mV	8.34 ft	150.00 ml/min
6/30/2020 11:16 AM	18:00	6.66 pH	56.49 °F	593.97 µS/cm	0.00 mg/L	25.7 mV	8.34 ft	150.00 ml/min
6/30/2020 11:19 AM	21:00	6.69 pH	56.39 °F	593.32 µS/cm	0.00 mg/L	20.5 mV	8.34 ft	150.00 ml/min
6/30/2020 11:22 AM	24:00	6.70 pH	56.37 °F	592.28 µS/cm	0.00 mg/L	23.2 mV	8.34 ft	150.00 ml/min
6/30/2020 11:25 AM	27:00	6.71 pH	56.41 °F	586.40 µS/cm	0.00 mg/L	24.7 mV	8.34 ft	150.00 ml/min
6/30/2020 11:28 AM	30:00	6.71 pH	56.43 °F	590.34 µS/cm	0.00 mg/L	26.7 mV	8.34 ft	150.00 ml/min
6/30/2020 11:31 AM	33:00	6.70 pH	56.37 °F	589.87 µS/cm	0.00 mg/L	26.8 mV	8.34 ft	150.00 ml/min
6/30/2020 11:35 AM	36:59	6.71 pH	56.40 °F	590.15 µS/cm	0.00 mg/L	36.4 mV	8.34 ft	150.00 ml/min

6/30/2020 11:35 AM	37:34	6.71 pH	56.38 °F	591.31 µS/cm	0.00 mg/L	33.6 mV	8.34 ft	150.00 ml/min
6/30/2020 11:38 AM	40:34	6.70 pH	56.43 °F	587.44 µS/cm	0.00 mg/L	33.2 mV	8.34 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-522	Sample time: 11:50 Final DTW: 8.36 Final RDO: 0.0 mg/L Ferrous Iron: 0.0 mg/L
MW-522 MS	Sample time: 11:55
MW-522 MSD	Sample Time: 12:00

Low-Flow Test Report:

Test Date / Time: 6/30/2020 12:53:27 PM

Project: Edmonds Terminal 2Q20 MW-8R

Operator Name: DSG

Location Name: MW-8R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.36 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/30/2020 12:53 PM	00:00	6.74 pH	59.10 °F	476.91 µS/cm	1.63 mg/L	96.5 mV	8.36 ft	150.00 ml/min
6/30/2020 12:56 PM	03:00	6.74 pH	57.96 °F	475.66 µS/cm	0.74 mg/L	103.2 mV	8.36 ft	150.00 ml/min
6/30/2020 12:59 PM	06:00	6.76 pH	57.40 °F	476.90 µS/cm	0.74 mg/L	114.1 mV	8.36 ft	150.00 ml/min
6/30/2020 1:02 PM	09:00	6.78 pH	57.33 °F	477.91 µS/cm	0.71 mg/L	114.0 mV	8.36 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-8R	Sample Time: 13:08 Final DTW: 8.36 ft btoc Final RDO: 0.71 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 7/1/2020 9:02:30 AM
Project: Edmonds Terminal 2Q20 MW-532
Operator Name: DSG

Location Name: MW-532 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.59 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.6 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:
Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 9:02 AM	00:00	5.97 pH	57.38 °F	167.65 µS/cm	3.72 mg/L	156.9 mV	7.59 ft	150.00 ml/min
7/1/2020 9:05 AM	03:00	5.92 pH	56.78 °F	168.90 µS/cm	0.56 mg/L	191.0 mV	7.59 ft	150.00 ml/min
7/1/2020 9:08 AM	06:00	5.89 pH	56.95 °F	169.85 µS/cm	0.63 mg/L	191.0 mV	7.59 ft	150.00 ml/min
7/1/2020 9:11 AM	09:00	5.85 pH	57.27 °F	182.63 µS/cm	0.85 mg/L	192.7 mV	7.59 ft	150.00 ml/min
7/1/2020 9:14 AM	12:00	5.85 pH	57.32 °F	186.45 µS/cm	0.63 mg/L	190.4 mV	7.59 ft	150.00 ml/min
7/1/2020 9:17 AM	15:00	5.84 pH	57.09 °F	185.46 µS/cm	0.39 mg/L	191.0 mV	7.59 ft	150.00 ml/min
7/1/2020 9:20 AM	18:00	5.84 pH	56.98 °F	182.20 µS/cm	0.35 mg/L	191.3 mV	7.59 ft	150.00 ml/min
7/1/2020 9:23 AM	21:00	5.84 pH	56.76 °F	178.31 µS/cm	0.37 mg/L	187.6 mV	7.59 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-532

Sample Time: 9:30
Final DTW: 9.19 ft btoc
Final RDO: 0.37 mg/L
Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 7/1/2020 9:08:04 AM

Project: Edmonds Terminal 2Q20

Operator Name: KZ

Location Name: MW-526 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.4 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1.3 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.32 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Sample Time: 0950

Final DTW: 5.72 fbtoc

Final RDO: 0.38 mg/L

Ferrous Iron: 0.5 mg/L

Weather Conditions:

55 degrees, light rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 9:08 AM	00:00	7.44 pH	57.33 °F	240.07 µS/cm	3.01 mg/L	19.0 mV	5.40 ft	150.00 ml/min
7/1/2020 9:11 AM	03:00	6.29 pH	57.61 °F	183.59 µS/cm	0.63 mg/L	8.5 mV	5.40 ft	150.00 ml/min
7/1/2020 9:14 AM	06:00	6.23 pH	57.93 °F	170.37 µS/cm	0.66 mg/L	11.9 mV	5.40 ft	150.00 ml/min
7/1/2020 9:17 AM	09:00	6.21 pH	58.16 °F	166.41 µS/cm	0.48 mg/L	16.6 mV	5.40 ft	150.00 ml/min
7/1/2020 9:20 AM	12:00	6.17 pH	58.39 °F	157.53 µS/cm	0.40 mg/L	20.4 mV	5.40 ft	150.00 ml/min
7/1/2020 9:23 AM	15:00	6.12 pH	58.60 °F	147.96 µS/cm	0.40 mg/L	23.5 mV	5.40 ft	150.00 ml/min
7/1/2020 9:26 AM	18:00	6.11 pH	58.78 °F	144.67 µS/cm	0.39 mg/L	26.5 mV	5.40 ft	150.00 ml/min
7/1/2020 9:29 AM	21:00	6.10 pH	58.95 °F	142.46 µS/cm	0.39 mg/L	30.2 mV	5.40 ft	150.00 ml/min
7/1/2020 9:32 AM	24:00	6.09 pH	59.07 °F	141.62 µS/cm	0.45 mg/L	32.9 mV	5.40 ft	150.00 ml/min
7/1/2020 9:35 AM	27:00	6.09 pH	59.13 °F	141.42 µS/cm	0.36 mg/L	34.5 mV	5.40 ft	150.00 ml/min

7/1/2020 9:38 AM	30:00	6.08 pH	59.19 °F	141.71 µS/cm	0.41 mg/L	37.3 mV	5.40 ft	150.00 ml/min
7/1/2020 9:41 AM	33:00	6.07 pH	59.26 °F	145.88 µS/cm	0.38 mg/L	39.0 mV	5.40 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-526	

Low-Flow Test Report:

Test Date / Time: 7/1/2020 10:13:20 AM
Project: Edmonds Terminal 2Q20 MW-104
Operator Name: DSG

Location Name: MW-104 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.43 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 12 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.27 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:
Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 10:13 AM	00:00	6.36 pH	57.76 °F	2,664.8 µS/cm	0.66 mg/L	-112.9 mV	8.43 ft	150.00 ml/min
7/1/2020 10:16 AM	03:00	6.36 pH	57.31 °F	2,692.1 µS/cm	0.12 mg/L	-175.2 mV	8.43 ft	150.00 ml/min
7/1/2020 10:19 AM	06:00	6.37 pH	57.29 °F	2,569.0 µS/cm	0.00 mg/L	-180.8 mV	8.43 ft	150.00 ml/min
7/1/2020 10:22 AM	09:00	6.39 pH	57.19 °F	2,659.0 µS/cm	0.07 mg/L	-183.0 mV	8.43 ft	150.00 ml/min
7/1/2020 10:25 AM	12:00	6.40 pH	57.15 °F	2,794.9 µS/cm	0.06 mg/L	-176.6 mV	8.43 ft	150.00 ml/min
7/1/2020 10:28 AM	15:00	6.41 pH	57.12 °F	2,907.3 µS/cm	0.09 mg/L	-181.0 mV	8.43 ft	150.00 ml/min
7/1/2020 10:31 AM	18:00	6.41 pH	57.09 °F	3,025.5 µS/cm	0.02 mg/L	-181.0 mV	8.43 ft	150.00 ml/min
7/1/2020 10:34 AM	21:00	6.42 pH	57.14 °F	3,107.6 µS/cm	0.01 mg/L	-183.2 mV	8.43 ft	150.00 ml/min
7/1/2020 10:37 AM	24:00	6.43 pH	57.23 °F	3,274.4 µS/cm	0.00 mg/L	-182.8 mV	8.43 ft	150.00 ml/min
7/1/2020 10:40 AM	27:00	6.43 pH	57.23 °F	3,277.7 µS/cm	0.00 mg/L	-186.0 mV	8.43 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-104

Sample Time: 10:45
Final DTW: 8.70 ft btoc
Final RDO: 0.0
Ferrous Iron: 2.0

Low-Flow Test Report:

Test Date / Time: 7/1/2020 10:59:52 AM

Project: Edmonds Terminal 2Q20

Operator Name: KZ

Location Name: MW-511 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 7.99 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 11 ft Estimated Total Volume Pumped: 0.35 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Sample Time: 1120

Final DTW: 8.01 ft bloc

Final RDO:

Ferrous Iron: 0.0 mg/L

Weather Conditions:

55, light rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 10:59 AM	00:00	6.45 pH	58.90 °F	16.70 µS/cm	6.26 mg/L	80.3 mV	7.99 ft	150.00 ml/min
7/1/2020 11:02 AM	03:00	6.43 pH	55.59 °F	277.07 µS/cm	5.81 mg/L	61.7 mV	7.99 ft	150.00 ml/min
7/1/2020 11:05 AM	06:00	6.40 pH	54.77 °F	275.74 µS/cm	5.64 mg/L	61.5 mV	7.99 ft	150.00 ml/min
7/1/2020 11:08 AM	09:00	6.41 pH	54.51 °F	277.15 µS/cm	5.51 mg/L	61.9 mV	7.99 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-511	

Low-Flow Test Report:

Test Date / Time: 7/1/2020 11:24:20 AM
Project: Edmonds Terminal 2Q20 MW-20R
Operator Name: DSG

Location Name: MW-20R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4 ft Total Depth: 14.5 ft Initial Depth to Water: 6.93 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:
Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 11:24 AM	00:00	5.92 pH	58.48 °F	12,815 µS/cm	1.15 mg/L	89.5 mV	6.93 ft	150.00 ml/min
7/1/2020 11:27 AM	03:00	5.99 pH	56.89 °F	12,992 µS/cm	0.06 mg/L	104.0 mV	6.93 ft	150.00 ml/min
7/1/2020 11:30 AM	06:00	6.34 pH	56.39 °F	19,403 µS/cm	0.00 mg/L	78.6 mV	6.93 ft	150.00 ml/min
7/1/2020 11:33 AM	09:00	6.46 pH	56.14 °F	23,318 µS/cm	0.00 mg/L	-51.8 mV	6.93 ft	150.00 ml/min
7/1/2020 11:36 AM	12:00	6.51 pH	56.03 °F	24,855 µS/cm	0.00 mg/L	-89.9 mV	6.93 ft	150.00 ml/min
7/1/2020 11:39 AM	15:00	6.54 pH	55.95 °F	25,112 µS/cm	0.00 mg/L	-116.6 mV	6.93 ft	150.00 ml/min
7/1/2020 11:42 AM	18:00	6.57 pH	56.01 °F	25,015 µS/cm	0.00 mg/L	-141.8 mV	6.93 ft	150.00 ml/min
7/1/2020 11:45 AM	21:00	6.57 pH	56.05 °F	25,476 µS/cm	0.00 mg/L	-154.0 mV	6.93 ft	150.00 ml/min
7/1/2020 11:48 AM	24:00	6.58 pH	55.97 °F	25,560 µS/cm	0.00 mg/L	-164.4 mV	6.93 ft	150.00 ml/min
7/1/2020 11:51 AM	27:00	6.58 pH	56.09 °F	25,706 µS/cm	0.00 mg/L	-165.7 mV	6.93 ft	150.00 ml/min
7/1/2020 11:54 AM	30:00	6.57 pH	56.13 °F	25,377 µS/cm	0.00 mg/L	-173.2 mV	6.93 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-20R	Sample Time: 12:00 Final DTW: 7.03 ft btoc Final RDO: 0.0 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 7/1/2020 12:19:06 PM

Project: Edmonds Terminal 2Q20

Operator Name: KZ

Location Name: MW-502 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.3 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1.3 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.27 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Sample Time: 1300

Final DTW: 5.57 ft bloc

Final RDO: 0.07 mg/L

Ferrous Iron: 0.05 mg/L

Weather Conditions:

55, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
7/1/2020 12:19 PM	00:00	6.39 pH	57.40 °F	267.85 µS/cm	1.98 mg/L	60.7 mV	5.30 ft	150.00 ml/min
7/1/2020 12:22 PM	03:00	6.33 pH	56.76 °F	268.87 µS/cm	0.31 mg/L	59.1 mV	5.30 ft	150.00 ml/min
7/1/2020 12:25 PM	06:00	6.31 pH	56.45 °F	269.36 µS/cm	0.18 mg/L	58.3 mV	5.30 ft	150.00 ml/min
7/1/2020 12:28 PM	09:00	6.32 pH	56.37 °F	270.22 µS/cm	0.14 mg/L	57.1 mV	5.30 ft	150.00 ml/min
7/1/2020 12:31 PM	12:00	6.33 pH	56.26 °F	270.66 µS/cm	0.12 mg/L	56.1 mV	5.30 ft	150.00 ml/min
7/1/2020 12:34 PM	15:00	6.34 pH	56.24 °F	271.20 µS/cm	0.11 mg/L	55.2 mV	5.30 ft	150.00 ml/min
7/1/2020 12:37 PM	18:00	6.33 pH	56.25 °F	272.14 µS/cm	0.10 mg/L	55.6 mV	5.30 ft	150.00 ml/min
7/1/2020 12:40 PM	21:00	6.33 pH	56.21 °F	271.88 µS/cm	0.09 mg/L	56.0 mV	5.30 ft	150.00 ml/min
7/1/2020 12:43 PM	24:00	6.33 pH	56.17 °F	272.23 µS/cm	0.08 mg/L	55.9 mV	5.30 ft	150.00 ml/min
7/1/2020 12:46 PM	27:00	6.34 pH	56.21 °F	272.61 µS/cm	0.07 mg/L	56.0 mV	5.30 ft	150.00 ml/min

7/1/2020 12:49 PM	30:00	6.34 pH	56.25 °F	272.34 µS/cm	0.07 mg/L	55.7 mV	5.30 ft	150.00 ml/min
7/1/2020 12:52 PM	33:00	6.34 pH	56.22 °F	273.01 µS/cm	0.07 mg/L	56.5 mV	5.30 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-502	

Low-Flow Test Report:

Test Date / Time: 6/23/2020 10:20:54 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

<p>Location Name: MW-525 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.38 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8.5 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 2.8 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545</p>
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/23/2020 10:20 AM	00:00	6.93 pH	64.06 °F	462.49 µS/cm	2.76 mg/L	3.80 NTU	42.2 mV	6.38 ft	150.00 ml/min
6/23/2020 10:23 AM	03:00	6.48 pH	60.72 °F	729.47 µS/cm	0.25 mg/L	12.54 NTU	12.4 mV	6.38 ft	150.00 ml/min
6/23/2020 10:26 AM	06:00	6.42 pH	60.40 °F	688.69 µS/cm	0.16 mg/L	17.00 NTU	1.1 mV	6.38 ft	150.00 ml/min
6/23/2020 10:29 AM	09:00	6.44 pH	60.41 °F	743.67 µS/cm	0.16 mg/L	25.11 NTU	-1.9 mV	6.38 ft	150.00 ml/min
6/23/2020 10:32 AM	12:00	6.46 pH	60.30 °F	787.59 µS/cm	0.17 mg/L	19.79 NTU	-4.4 mV	6.38 ft	150.00 ml/min
6/23/2020 10:35 AM	15:00	6.45 pH	60.26 °F	823.93 µS/cm	0.16 mg/L	14.91 NTU	-3.4 mV	6.38 ft	150.00 ml/min
6/23/2020 10:38 AM	18:00	6.39 pH	60.04 °F	869.49 µS/cm	0.34 mg/L	12.01 NTU	0.2 mV	6.38 ft	150.00 ml/min
6/23/2020 10:41 AM	21:00	6.37 pH	59.67 °F	915.53 µS/cm	0.35 mg/L	12.22 NTU	2.0 mV	6.38 ft	150.00 ml/min
6/23/2020 10:44 AM	24:00	6.38 pH	59.56 °F	953.85 µS/cm	0.36 mg/L	6.12 NTU	4.5 mV	6.38 ft	150.00 ml/min
6/23/2020 10:47 AM	27:00	6.38 pH	59.35 °F	978.86 µS/cm	0.30 mg/L	8.25 NTU	5.8 mV	6.38 ft	150.00 ml/min
6/23/2020 10:50 AM	30:00	6.27 pH	59.83 °F	958.82 µS/cm	0.41 mg/L	2.79 NTU	6.2 mV	6.38 ft	150.00 ml/min
6/23/2020 10:53 AM	33:00	6.41 pH	60.04 °F	969.00 µS/cm	0.36 mg/L	11.78 NTU	8.1 mV	6.38 ft	150.00 ml/min

6/23/2020 10:56 AM	36:00	6.52 pH	59.96 °F	972.72 µS/cm	0.24 mg/L	8.11 NTU	7.3 mV	6.38 ft	150.00 ml/min
6/23/2020 10:59 AM	39:00	6.41 pH	60.13 °F	966.72 µS/cm	0.35 mg/L	19.93 NTU	5.3 mV	6.38 ft	150.00 ml/min
6/23/2020 11:02 AM	42:00	6.43 pH	60.18 °F	983.12 µS/cm	0.30 mg/L	50.23 NTU	6.2 mV	6.38 ft	150.00 ml/min
6/23/2020 11:05 AM	45:00	6.41 pH	60.10 °F	1,014.3 µS/cm	0.28 mg/L	2.38 NTU	5.8 mV	6.38 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-525	Time 1112 Final dtw 9.20 Final RDO 0.28 Iron: 3.5 ORP did not stabilize. Conductivity de-stabilized

Low-Flow Test Report:

Test Date / Time: 6/23/2020 12:59:21 PM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-535 Latitude: 47.8070538137674 Longitude: -122.389415279031 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.98 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

73F, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2020 12:59 PM	00:00	6.94 pH	60.64 °F	29,006 µS/cm	3.97 mg/L	77.9 mV	4.98 ft	150.00 ml/min
6/23/2020 1:02 PM	03:00	7.00 pH	60.88 °F	28,959 µS/cm	3.91 mg/L	105.9 mV	4.98 ft	150.00 ml/min
6/23/2020 1:05 PM	06:00	7.01 pH	60.91 °F	28,915 µS/cm	3.85 mg/L	120.1 mV	4.98 ft	150.00 ml/min
6/23/2020 1:08 PM	09:00	7.01 pH	60.94 °F	28,548 µS/cm	3.82 mg/L	129.2 mV	4.98 ft	150.00 ml/min
6/23/2020 1:11 PM	12:00	7.02 pH	60.79 °F	28,899 µS/cm	3.79 mg/L	137.6 mV	4.98 ft	150.00 ml/min
6/23/2020 1:14 PM	15:05	7.03 pH	60.47 °F	28,958 µS/cm	3.77 mg/L	149.7 mV	4.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-535	Sample Time: 1313 Final DTW: 4.98 ft btoc Final RDO: 3.77 mg/L Ferrous Iron: 0 mg/L
DUP-1	Sample Time:

Low-Flow Test Report:

Test Date / Time: 6/23/2020 12:59:46 PM
Project: Edmonds Terminal 2Q20 MW-530
Operator Name: DSG

Location Name: MW-530 Well Diameter: 1 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 3 ft Total Depth: 8 ft Initial Depth to Water: 7.45 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7.75 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.75 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2020 12:59 PM	00:00	6.43 pH	58.65 °F	32,629 µS/cm	2.00 mg/L	-76.3 mV	7.45 ft	150.00 ml/min
6/23/2020 1:02 PM	03:00	6.50 pH	58.04 °F	32,249 µS/cm	0.36 mg/L	-99.5 mV	7.45 ft	150.00 ml/min
6/23/2020 1:05 PM	06:00	6.52 pH	58.38 °F	32,328 µS/cm	0.31 mg/L	-110.1 mV	7.45 ft	150.00 ml/min
6/23/2020 1:08 PM	09:00	6.53 pH	58.09 °F	32,171 µS/cm	0.27 mg/L	-120.7 mV	7.45 ft	150.00 ml/min
6/23/2020 1:11 PM	12:00	6.55 pH	57.86 °F	31,863 µS/cm	0.25 mg/L	-125.1 mV	7.45 ft	150.00 ml/min
6/23/2020 1:14 PM	15:00	6.56 pH	57.57 °F	31,472 µS/cm	0.21 mg/L	-130.7 mV	7.45 ft	150.00 ml/min
6/23/2020 1:17 PM	18:00	6.57 pH	57.75 °F	30,989 µS/cm	0.21 mg/L	-133.0 mV	7.45 ft	150.00 ml/min
6/23/2020 1:20 PM	21:00	6.58 pH	57.53 °F	30,751 µS/cm	0.20 mg/L	-136.8 mV	7.45 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-530

Sample Time: 13:31
Final DTW: 7.56 ft bloc
Final RDO: 0.20 mg/L
Ferrous Iron: 1.0 mg/L

Low-Flow Test Report:

Test Date / Time: 6/23/2020 1:03:44 PM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: LM-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 5.5 ft Top of Screen: 2.5 ft Total Depth: 8 ft Initial Depth to Water: 1.6 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 3 ft Estimated Total Volume Pumped: 7200 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.35 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/23/2020 1:03 PM	00:00	5.91 pH	66.35 °F	11,711 µS/cm	0.24 mg/L	33.28 NTU	59.0 mV	1.60 ft	150.00 ml/min
6/23/2020 1:06 PM	03:00	5.91 pH	63.63 °F	11,766 µS/cm	0.04 mg/L	41.45 NTU	31.9 mV	1.60 ft	150.00 ml/min
6/23/2020 1:09 PM	06:00	5.92 pH	62.64 °F	11,641 µS/cm	0.02 mg/L	30.97 NTU	17.1 mV	1.60 ft	150.00 ml/min
6/23/2020 1:12 PM	09:00	5.92 pH	62.16 °F	11,393 µS/cm	0.09 mg/L	31.22 NTU	7.0 mV	1.60 ft	150.00 ml/min
6/23/2020 1:15 PM	12:00	5.94 pH	61.92 °F	11,271 µS/cm	0.08 mg/L	21.25 NTU	-2.2 mV	1.60 ft	150.00 ml/min
6/23/2020 1:18 PM	15:00	5.96 pH	61.98 °F	11,071 µS/cm	0.13 mg/L	28.91 NTU	-8.0 mV	1.60 ft	150.00 ml/min
6/23/2020 1:21 PM	18:00	5.97 pH	61.69 °F	10,904 µS/cm	0.19 mg/L	21.17 NTU	-19.2 mV	1.60 ft	150.00 ml/min
6/23/2020 1:24 PM	21:00	5.98 pH	62.10 °F	10,776 µS/cm	0.26 mg/L	13.59 NTU	-28.9 mV	1.60 ft	150.00 ml/min
6/23/2020 1:27 PM	24:00	6.00 pH	62.59 °F	10,660 µS/cm	0.29 mg/L	12.31 NTU	-38.9 mV	1.60 ft	150.00 ml/min
6/23/2020 1:30 PM	27:00	6.00 pH	64.09 °F	10,696 µS/cm	0.34 mg/L	18.02 NTU	-46.9 mV	1.60 ft	150.00 ml/min
6/23/2020 1:33 PM	30:00	6.03 pH	63.36 °F	10,340 µS/cm	0.21 mg/L	20.67 NTU	-52.8 mV	1.60 ft	150.00 ml/min
6/23/2020 1:36 PM	33:00	6.07 pH	63.13 °F	10,064 µS/cm	0.14 mg/L	16.29 NTU	-65.8 mV	1.60 ft	150.00 ml/min

6/23/2020 1:39 PM	36:00	6.09 pH	63.05 °F	9,938.1 μS/cm	0.12 mg/L	16.03 NTU	-81.3 mV	1.60 ft	150.00 ml/min
6/23/2020 1:42 PM	39:00	6.10 pH	63.05 °F	9,823.0 μS/cm	0.09 mg/L	16.04 NTU	-97.5 mV	1.60 ft	150.00 ml/min
6/23/2020 1:45 PM	42:00	6.12 pH	62.88 °F	9,697.3 μS/cm	0.09 mg/L	17.58 NTU	-116.5 mV	1.60 ft	150.00 ml/min
6/23/2020 1:48 PM	45:00	6.14 pH	62.77 °F	9,595.9 μS/cm	0.08 mg/L	19.64 NTU	-136.6 mV	1.60 ft	150.00 ml/min
6/23/2020 1:51 PM	48:00	6.15 pH	62.88 °F	9,516.1 μS/cm	0.08 mg/L	18.82 NTU	-153.5 mV	1.60 ft	150.00 ml/min

Samples

Sample ID:	Description:
LM-2	Final dtw 2.95 Time 1352 DO 0.08, Iron 7.0 ORP didn t stabilize

Low-Flow Test Report:

Test Date / Time: 6/23/2020 2:00:09 PM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-ER Latitude: 47.80600603462 Longitude: -122.388211637735 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.91 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.47 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

75F, sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2020 2:00 PM	00:00	6.57 pH	60.34 °F	1,547.0 µS/cm	0.61 mg/L	-75.7 mV	6.91 ft	150.00 ml/min
6/23/2020 2:03 PM	03:01	6.54 pH	60.44 °F	1,469.9 µS/cm	0.22 mg/L	-92.4 mV	6.91 ft	150.00 ml/min
6/23/2020 2:06 PM	06:01	6.54 pH	60.38 °F	1,442.3 µS/cm	0.14 mg/L	-99.2 mV	6.91 ft	150.00 ml/min
6/23/2020 2:09 PM	09:01	6.53 pH	60.75 °F	1,439.4 µS/cm	0.12 mg/L	-103.6 mV	6.91 ft	150.00 ml/min
6/23/2020 2:12 PM	12:01	6.53 pH	60.52 °F	1,406.2 µS/cm	0.12 mg/L	-106.3 mV	6.91 ft	150.00 ml/min
6/23/2020 2:15 PM	15:01	6.53 pH	60.52 °F	1,391.7 µS/cm	0.13 mg/L	-108.2 mV	6.91 ft	150.00 ml/min
6/23/2020 2:18 PM	18:01	6.53 pH	60.62 °F	1,351.4 µS/cm	0.09 mg/L	-109.7 mV	6.91 ft	150.00 ml/min
6/23/2020 2:21 PM	21:01	6.52 pH	60.60 °F	1,396.1 µS/cm	0.07 mg/L	-111.0 mV	6.91 ft	150.00 ml/min
6/23/2020 2:24 PM	24:03	6.52 pH	60.42 °F	1,350.5 µS/cm	0.06 mg/L	-112.0 mV	6.91 ft	150.00 ml/min
6/23/2020 2:27 PM	27:03	6.52 pH	60.36 °F	1,271.9 µS/cm	0.06 mg/L	-113.1 mV	6.91 ft	150.00 ml/min
6/23/2020 2:30 PM	30:03	6.54 pH	60.23 °F	1,264.2 µS/cm	0.06 mg/L	-115.2 mV	6.91 ft	150.00 ml/min
6/23/2020 2:33 PM	33:03	6.54 pH	60.19 °F	1,319.0 µS/cm	0.08 mg/L	-116.0 mV	6.91 ft	150.00 ml/min

6/23/2020 2:36 PM	36:03	6.54 pH	60.19 °F	1,300.2 µS/cm	0.10 mg/L	-116.8 mV	6.91 ft	150.00 ml/min
6/23/2020 2:39 PM	39:03	6.54 pH	60.00 °F	1,286.7 µS/cm	0.09 mg/L	-117.6 mV	6.91 ft	150.00 ml/min
6/23/2020 2:42 PM	42:03	6.54 pH	60.02 °F	1,312.5 µS/cm	0.09 mg/L	-118.5 mV	6.91 ft	150.00 ml/min
6/23/2020 2:45 PM	45:03	6.54 pH	59.80 °F	1,315.3 µS/cm	0.06 mg/L	-119.8 mV	6.91 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-ER	<p>Sample Time: 1423 Final DTW: 7.38 ft btoc Final RDO: 0.06 mg/L Ferrous Iron: >7 mg/L</p> <p>RDO did not stabilize after 45 minutes.</p>
DUP-2	Sample Time:

Low-Flow Test Report:

Test Date / Time: 6/24/2020 8:33:56 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-534 Latitude: 47.8066836143944 Longitude: -122.388871125877 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.42 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.05 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

64F, cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 8:33 AM	00:00	6.55 pH	60.87 °F	16,087 µS/cm	1.56 mg/L	69.7 mV	3.42 ft	150.00 ml/min
6/24/2020 8:36 AM	03:00	6.55 pH	61.19 °F	15,054 µS/cm	0.30 mg/L	9.7 mV	3.42 ft	150.00 ml/min
6/24/2020 8:39 AM	06:00	6.57 pH	61.34 °F	13,536 µS/cm	0.21 mg/L	-11.0 mV	3.42 ft	150.00 ml/min
6/24/2020 8:42 AM	09:00	6.57 pH	61.40 °F	10,944 µS/cm	0.19 mg/L	-23.4 mV	3.42 ft	150.00 ml/min
6/24/2020 8:45 AM	12:00	6.56 pH	61.44 °F	9,006.5 µS/cm	0.17 mg/L	-27.4 mV	3.42 ft	150.00 ml/min
6/24/2020 8:48 AM	15:00	6.54 pH	61.33 °F	10,728 µS/cm	0.15 mg/L	-26.9 mV	3.42 ft	150.00 ml/min
6/24/2020 8:51 AM	18:00	6.54 pH	61.50 °F	8,138.7 µS/cm	0.13 mg/L	-29.3 mV	3.42 ft	150.00 ml/min
6/24/2020 8:54 AM	21:00	6.55 pH	61.65 °F	8,505.7 µS/cm	0.15 mg/L	-30.8 mV	3.42 ft	150.00 ml/min
6/24/2020 8:57 AM	24:00	6.55 pH	61.64 °F	8,625.0 µS/cm	0.15 mg/L	-32.3 mV	3.42 ft	150.00 ml/min
6/24/2020 9:00 AM	27:00	6.55 pH	61.61 °F	8,754.0 µS/cm	0.14 mg/L	-34.1 mV	3.42 ft	150.00 ml/min
6/24/2020 9:03 AM	30:00	6.55 pH	61.60 °F	8,720.0 µS/cm	0.13 mg/L	-36.0 mV	3.42 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-534	Sample Time: 0913 Final DTW: 3.52 ft btoc Final RDO: 0.13mg/L Ferrous Iron: 6.5 mg/L

Low-Flow Test Report:

Test Date / Time: 6/24/2020 8:39:16 AM
Project: Edmonds Terminal 2Q20 MW-129R
Operator Name: DSG

Location Name: MW-129R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.21 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 6972.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.7 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
 Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 8:39 AM	00:00	6.58 pH	75.43 °F	9.95 µS/cm	8.77 mg/L	156.0 mV	5.21 ft	150.00 ml/min
6/24/2020 8:40 AM	01:29	6.69 pH	58.68 °F	1,396.1 µS/cm	1.54 mg/L	-56.3 mV	5.21 ft	150.00 ml/min
6/24/2020 8:43 AM	04:29	6.70 pH	58.18 °F	1,311.2 µS/cm	0.61 mg/L	-76.2 mV	5.21 ft	150.00 ml/min
6/24/2020 8:46 AM	07:29	6.71 pH	58.32 °F	1,275.1 µS/cm	0.62 mg/L	-84.2 mV	5.21 ft	150.00 ml/min
6/24/2020 8:49 AM	10:29	6.72 pH	58.18 °F	1,273.4 µS/cm	0.56 mg/L	-89.7 mV	5.21 ft	150.00 ml/min
6/24/2020 8:52 AM	13:29	6.72 pH	58.26 °F	1,276.6 µS/cm	0.51 mg/L	-93.9 mV	5.21 ft	150.00 ml/min
6/24/2020 8:55 AM	16:29	6.72 pH	58.23 °F	1,283.9 µS/cm	0.46 mg/L	-84.9 mV	5.21 ft	150.00 ml/min
6/24/2020 8:58 AM	19:29	6.73 pH	57.97 °F	1,281.9 µS/cm	0.31 mg/L	-94.8 mV	5.21 ft	150.00 ml/min
6/24/2020 9:01 AM	22:29	6.73 pH	57.63 °F	1,275.8 µS/cm	0.29 mg/L	-100.2 mV	5.21 ft	150.00 ml/min
6/24/2020 9:04 AM	25:29	6.73 pH	57.76 °F	1,275.1 µS/cm	0.26 mg/L	-103.5 mV	5.21 ft	150.00 ml/min
6/24/2020 9:07 AM	28:29	6.73 pH	57.52 °F	1,278.0 µS/cm	0.31 mg/L	-105.6 mV	5.21 ft	150.00 ml/min
6/24/2020 9:10 AM	31:29	6.73 pH	57.28 °F	1,290.8 µS/cm	0.27 mg/L	-96.6 mV	5.21 ft	150.00 ml/min
6/24/2020 9:13 AM	34:29	6.73 pH	57.14 °F	1,295.5 µS/cm	0.27 mg/L	-103.4 mV	5.21 ft	150.00 ml/min

6/24/2020 9:16 AM	37:29	6.73 pH	57.11 °F	1,296.4 µS/cm	0.23 mg/L	-106.0 mV	5.21 ft	150.00 ml/min
6/24/2020 9:19 AM	40:29	6.73 pH	57.26 °F	1,292.6 µS/cm	0.26 mg/L	-108.6 mV	5.21 ft	150.00 ml/min
6/24/2020 9:22 AM	43:29	6.73 pH	56.98 °F	1,287.3 µS/cm	0.20 mg/L	-110.7 mV	5.21 ft	150.00 ml/min
6/24/2020 9:25 AM	46:29	6.73 pH	57.08 °F	1,281.8 µS/cm	0.26 mg/L	-111.7 mV	5.21 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-129R	Sample Time: 9:31 Final DTW: 6.91 ft bloc Final RDO: 0.26 mg/L Ferrous Iron: 7.0 mg/L
Dup-3	

Low-Flow Test Report:

Test Date / Time: 6/24/2020 8:41:25 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-531 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.59 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 2700 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Slightly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/24/2020 8:41 AM	00:00	6.62 pH	62.00 °F	1,839.2 µS/cm	2.88 mg/L	12.14 NTU	158.8 mV	7.59 ft	150.00 ml/min
6/24/2020 8:44 AM	03:00	6.62 pH	59.81 °F	2,125.5 µS/cm	0.38 mg/L	1.01 NTU	96.3 mV	7.59 ft	150.00 ml/min
6/24/2020 8:47 AM	06:00	6.62 pH	59.45 °F	2,115.8 µS/cm	0.28 mg/L	1.76 NTU	92.5 mV	7.59 ft	150.00 ml/min
6/24/2020 8:50 AM	09:00	6.62 pH	59.40 °F	2,114.2 µS/cm	0.23 mg/L	1.73 NTU	90.4 mV	7.59 ft	150.00 ml/min
6/24/2020 8:53 AM	12:00	6.63 pH	59.61 °F	2,105.5 µS/cm	0.19 mg/L	2.74 NTU	87.9 mV	7.59 ft	150.00 ml/min
6/24/2020 8:56 AM	15:00	6.63 pH	59.49 °F	2,100.2 µS/cm	0.17 mg/L	1.78 NTU	88.3 mV	7.59 ft	150.00 ml/min
6/24/2020 8:59 AM	18:00	6.64 pH	59.46 °F	2,048.5 µS/cm	0.18 mg/L	2.19 NTU	86.6 mV	7.59 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-531	Time 0902 Final dtw 7.65 DO 0.18 Iron: 1.0
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Low-Flow Test Report:

Test Date / Time: 6/24/2020 9:32:55 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-519 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.9 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/24/2020 9:32 AM	00:00	7.51 pH	62.36 °F	84.09 µS/cm	8.78 mg/L	1.68 NTU	96.5 mV	6.90 ft	150.00 ml/min
6/24/2020 9:35 AM	03:00	6.98 pH	59.90 °F	505.55 µS/cm	0.42 mg/L	3.93 NTU	67.3 mV	6.90 ft	150.00 ml/min
6/24/2020 9:38 AM	06:00	6.97 pH	59.77 °F	503.86 µS/cm	0.27 mg/L	3.90 NTU	65.1 mV	6.90 ft	150.00 ml/min
6/24/2020 9:41 AM	09:00	6.97 pH	59.81 °F	505.46 µS/cm	0.23 mg/L	3.33 NTU	63.5 mV	6.90 ft	150.00 ml/min
6/24/2020 9:44 AM	12:00	6.97 pH	59.85 °F	505.76 µS/cm	0.23 mg/L	3.09 NTU	62.9 mV	6.90 ft	150.00 ml/min
6/24/2020 9:47 AM	15:00	6.97 pH	59.96 °F	504.76 µS/cm	0.22 mg/L	3.98 NTU	62.3 mV	6.90 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-519	Time 0952 Final dtw 6.90 DO 0.22 Iron 0.5

Low-Flow Test Report:

Test Date / Time: 6/24/2020 9:45:04 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-533 Latitude: 47.806861508583 Longitude: -122.389572188258 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.98 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 1655 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 9:45 AM	00:00	7.23 pH	59.28 °F	37,966 µS/cm	6.70 mg/L	139.1 mV	4.98 ft	150.00 ml/min
6/24/2020 9:48 AM	03:00	7.34 pH	58.98 °F	38,884 µS/cm	6.35 mg/L	160.7 mV	4.98 ft	150.00 ml/min
6/24/2020 9:51 AM	06:00	7.36 pH	58.85 °F	38,937 µS/cm	6.33 mg/L	164.6 mV	4.98 ft	150.00 ml/min
6/24/2020 9:54 AM	09:00	7.37 pH	58.79 °F	38,956 µS/cm	6.32 mg/L	170.2 mV	4.98 ft	150.00 ml/min
6/24/2020 9:56 AM	11:02	7.38 pH	58.91 °F	38,985 µS/cm	6.32 mg/L	177.1 mV	4.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-533	Sample Time: 1003 Final DTW: 4.98 ft btoc Final RDO: 6.32 mg/L Ferrous Iron: 2.0 mg/L

Low-Flow Test Report:

Test Date / Time: 6/24/2020 10:28:51 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

Location Name: MW-143 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.6 ft Top of Screen: 3.5 ft Total Depth: 14.1 ft Initial Depth to Water: 5.12 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 2.91 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/24/2020 10:28 AM	00:00	6.92 pH	62.77 °F	468.30 µS/cm	2.48 mg/L	11.02 NTU	58.6 mV	5.12 ft	150.00 ml/min
6/24/2020 10:31 AM	03:00	6.40 pH	57.79 °F	484.10 µS/cm	0.34 mg/L	3.32 NTU	38.3 mV	5.12 ft	150.00 ml/min
6/24/2020 10:34 AM	06:00	6.40 pH	57.01 °F	488.78 µS/cm	0.20 mg/L	4.35 NTU	30.5 mV	5.12 ft	150.00 ml/min
6/24/2020 10:37 AM	09:00	6.40 pH	56.69 °F	492.13 µS/cm	0.15 mg/L	4.36 NTU	23.7 mV	5.12 ft	150.00 ml/min
6/24/2020 10:40 AM	12:00	6.41 pH	56.57 °F	496.79 µS/cm	0.13 mg/L	5.03 NTU	17.5 mV	5.12 ft	150.00 ml/min
6/24/2020 10:43 AM	15:00	6.41 pH	56.50 °F	499.94 µS/cm	0.11 mg/L	3.42 NTU	12.4 mV	5.12 ft	150.00 ml/min
6/24/2020 10:46 AM	18:00	6.42 pH	56.38 °F	505.56 µS/cm	0.13 mg/L	1.47 NTU	8.0 mV	5.12 ft	150.00 ml/min
6/24/2020 10:49 AM	21:00	6.42 pH	56.36 °F	519.88 µS/cm	0.11 mg/L	5.17 NTU	3.5 mV	5.12 ft	150.00 ml/min
6/24/2020 10:52 AM	24:00	6.43 pH	56.42 °F	535.82 µS/cm	0.15 mg/L	4.99 NTU	-0.2 mV	5.12 ft	150.00 ml/min
6/24/2020 10:55 AM	27:00	6.44 pH	56.26 °F	541.53 µS/cm	0.14 mg/L	4.60 NTU	-3.7 mV	5.12 ft	150.00 ml/min
6/24/2020 10:58 AM	30:00	6.45 pH	56.37 °F	551.05 µS/cm	0.19 mg/L	5.63 NTU	-6.7 mV	5.12 ft	150.00 ml/min
6/24/2020 11:01 AM	33:00	6.44 pH	56.70 °F	548.90 µS/cm	0.31 mg/L	5.39 NTU	-9.4 mV	5.12 ft	150.00 ml/min

6/24/2020 11:04 AM	36:00	6.45 pH	56.65 °F	548.98 µS/cm	0.36 mg/L	4.80 NTU	-11.4 mV	5.12 ft	150.00 ml/min
6/24/2020 11:07 AM	39:00	6.45 pH	56.60 °F	554.43 µS/cm	0.35 mg/L	5.72 NTU	-12.8 mV	5.12 ft	150.00 ml/min
6/24/2020 11:10 AM	42:00	6.46 pH	56.41 °F	564.08 µS/cm	0.31 mg/L	6.14 NTU	-13.8 mV	5.12 ft	150.00 ml/min
6/24/2020 11:13 AM	45:00	6.46 pH	56.23 °F	564.56 µS/cm	0.32 mg/L	6.29 NTU	-14.7 mV	5.12 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-143	Time 1122 Final dtw 8.03 DO 0.33 Iron 7.0 ORP didn't stabilize after 45min

Low-Flow Test Report:

Test Date / Time: 6/24/2020 10:29:06 AM
Project: Edmonds Terminal 2Q20 MW-506
Operator Name: DSG

Location Name: MW-506 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.62 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 10:29 AM	00:00	6.56 pH	58.52 °F	7,645.9 µS/cm	3.23 mg/L	-15.2 mV	6.62 ft	150.00 ml/min
6/24/2020 10:32 AM	03:00	6.61 pH	58.01 °F	6,649.3 µS/cm	1.05 mg/L	-38.3 mV	6.62 ft	150.00 ml/min
6/24/2020 10:35 AM	06:00	6.62 pH	58.02 °F	6,268.8 µS/cm	0.78 mg/L	-51.4 mV	6.62 ft	150.00 ml/min
6/24/2020 10:38 AM	09:00	6.63 pH	58.16 °F	5,844.6 µS/cm	0.55 mg/L	-61.9 mV	6.62 ft	150.00 ml/min
6/24/2020 10:41 AM	12:00	6.63 pH	58.39 °F	5,633.2 µS/cm	0.52 mg/L	-71.6 mV	6.62 ft	150.00 ml/min
6/24/2020 10:44 AM	15:00	6.63 pH	58.53 °F	5,700.2 µS/cm	0.44 mg/L	-75.2 mV	6.62 ft	150.00 ml/min
6/24/2020 10:47 AM	18:00	6.63 pH	58.35 °F	5,277.5 µS/cm	0.29 mg/L	-83.8 mV	6.62 ft	150.00 ml/min
6/24/2020 10:50 AM	21:00	6.63 pH	58.28 °F	5,164.5 µS/cm	0.46 mg/L	-87.0 mV	6.62 ft	150.00 ml/min
6/24/2020 10:53 AM	24:00	6.63 pH	58.31 °F	5,042.3 µS/cm	0.46 mg/L	-90.7 mV	6.62 ft	150.00 ml/min
6/24/2020 10:56 AM	27:00	6.60 pH	58.33 °F	5,661.2 µS/cm	0.40 mg/L	-90.6 mV	6.62 ft	150.00 ml/min
6/24/2020 10:59 AM	30:00	6.63 pH	58.64 °F	5,003.4 µS/cm	0.32 mg/L	-95.5 mV	6.62 ft	150.00 ml/min
6/24/2020 11:02 AM	33:00	6.64 pH	58.61 °F	4,976.6 µS/cm	0.39 mg/L	-95.7 mV	6.62 ft	150.00 ml/min
6/24/2020 11:05 AM	36:00	6.64 pH	58.47 °F	5,005.5 µS/cm	0.38 mg/L	-97.5 mV	6.62 ft	150.00 ml/min

6/24/2020 11:08 AM	39:00	6.64 pH	58.67 °F	4,880.4 µS/cm	0.57 mg/L	-98.5 mV	6.62 ft	150.00 ml/min
6/24/2020 11:11 AM	42:00	6.65 pH	58.43 °F	4,833.2 µS/cm	0.46 mg/L	-101.9 mV	6.62 ft	150.00 ml/min
6/24/2020 11:14 AM	45:00	6.65 pH	58.44 °F	4,907.3 µS/cm	0.51 mg/L	-102.2 mV	6.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-506	<p>Sample Time: 11:21 Final DTW: 6.72 ft btoc Final RDO: 0.51 mg/L Ferrous Iron: 6.0 mg/L</p> <p>RDO did not stabilize after 45 minutes</p>

Low-Flow Test Report:

Test Date / Time: 6/24/2020 10:52:57 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-139R Latitude: 47.8066385777943 Longitude: -122.38977201283 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4.4 ft Total Depth: 14.9 ft Initial Depth to Water: 7.02 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1.5 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 10:52 AM	00:00	7.20 pH	65.91 °F	6.45 µS/cm	8.46 mg/L	196.6 mV	7.02 ft	150.00 ml/min
6/24/2020 10:54 AM	01:37	6.93 pH	59.90 °F	26,132 µS/cm	3.49 mg/L	203.8 mV	7.02 ft	150.00 ml/min
6/24/2020 10:57 AM	04:37	6.92 pH	60.03 °F	19,857 µS/cm	3.28 mg/L	201.2 mV	7.02 ft	150.00 ml/min
6/24/2020 11:00 AM	07:38	6.93 pH	59.90 °F	18,103 µS/cm	3.26 mg/L	197.9 mV	7.02 ft	150.00 ml/min
6/24/2020 11:03 AM	10:38	6.93 pH	59.78 °F	17,469 µS/cm	3.23 mg/L	196.0 mV	7.02 ft	150.00 ml/min
6/24/2020 11:06 AM	13:38	6.92 pH	59.72 °F	17,424 µS/cm	3.27 mg/L	196.7 mV	7.02 ft	150.00 ml/min
6/24/2020 11:09 AM	16:38	6.93 pH	59.70 °F	16,509 µS/cm	3.35 mg/L	197.4 mV	7.02 ft	150.00 ml/min
6/24/2020 11:12 AM	19:38	6.93 pH	59.69 °F	16,387 µS/cm	3.45 mg/L	200.2 mV	7.02 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-139R

Sample Time: 1113
Final DTW: 7.05 ft btoc
Final RDO: 3.45 mg/L
Ferrous Iron: 0.5 mg/L

Low-Flow Test Report:

Test Date / Time: 6/24/2020 11:42:36 AM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-518 Latitude: 47.8064636102323 Longitude: -122.390067391098 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 2.5 ft Total Depth: 12.5 ft Initial Depth to Water: 8.32 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.23 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 11:42 AM	00:00	7.50 pH	59.36 °F	684.35 µS/cm	0.92 mg/L	-83.5 mV	8.32 ft	150.00 ml/min
6/24/2020 11:45 AM	03:00	7.46 pH	59.74 °F	634.65 µS/cm	0.31 mg/L	-109.3 mV	8.32 ft	150.00 ml/min
6/24/2020 11:48 AM	06:00	7.43 pH	59.78 °F	604.38 µS/cm	0.26 mg/L	-114.9 mV	8.32 ft	150.00 ml/min
6/24/2020 11:51 AM	09:00	7.40 pH	59.84 °F	598.46 µS/cm	0.21 mg/L	-117.7 mV	8.32 ft	150.00 ml/min
6/24/2020 11:54 AM	12:00	7.39 pH	59.88 °F	592.87 µS/cm	0.20 mg/L	-122.0 mV	8.32 ft	150.00 ml/min
6/24/2020 11:57 AM	15:00	7.36 pH	59.66 °F	590.47 µS/cm	0.18 mg/L	-123.5 mV	8.32 ft	150.00 ml/min
6/24/2020 12:00 PM	18:00	7.36 pH	59.58 °F	587.15 µS/cm	0.16 mg/L	-125.7 mV	8.32 ft	150.00 ml/min
6/24/2020 12:03 PM	21:00	7.34 pH	59.68 °F	586.85 µS/cm	0.16 mg/L	-125.9 mV	8.32 ft	150.00 ml/min
6/24/2020 12:06 PM	24:00	7.34 pH	59.47 °F	582.27 µS/cm	0.15 mg/L	-127.4 mV	8.32 ft	150.00 ml/min
6/24/2020 12:09 PM	27:00	7.32 pH	59.54 °F	581.63 µS/cm	0.16 mg/L	-127.9 mV	8.32 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-518	Sample Time: 1213 Final DTW: 8.55 ft btoc Final RDO: 0.16 mg/L Ferrous Iron: 1.0 mg/L
DUP-4	Sample Time:

Low-Flow Test Report:

Test Date / Time: 6/24/2020 11:44:44 AM

Project: Edmonds Terminal 2Q20

Operator Name: RK

<p>Location Name: MW-126 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 3.7 ft Total Depth: 14.2 ft Initial Depth to Water: 5.54 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 7.5 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.91 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545</p>
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Test Notes:

Weather Conditions:

Slightly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10 %	+/- 15 %		
6/24/2020 11:44 AM	00:00	6.50 pH	60.52 °F	394.20 µS/cm	2.45 mg/L	73.77 NTU	-17.4 mV	5.54 ft	150.00 ml/min
6/24/2020 11:47 AM	03:00	6.71 pH	55.91 °F	478.05 µS/cm	3.60 mg/L	0.17 NTU	-16.3 mV	5.54 ft	150.00 ml/min
6/24/2020 11:50 AM	06:00	6.72 pH	56.01 °F	479.56 µS/cm	4.01 mg/L	0.00 NTU	-9.2 mV	5.54 ft	150.00 ml/min
6/24/2020 11:53 AM	09:00	6.71 pH	56.01 °F	479.44 µS/cm	4.31 mg/L	0.00 NTU	-3.8 mV	5.54 ft	150.00 ml/min
6/24/2020 11:56 AM	12:00	6.71 pH	56.15 °F	482.20 µS/cm	4.46 mg/L	0.00 NTU	-0.2 mV	5.54 ft	150.00 ml/min
6/24/2020 11:59 AM	15:00	6.72 pH	55.99 °F	485.41 µS/cm	4.26 mg/L	0.42 NTU	2.4 mV	5.54 ft	150.00 ml/min
6/24/2020 12:02 PM	18:00	6.71 pH	55.73 °F	491.78 µS/cm	3.72 mg/L	0.62 NTU	4.4 mV	5.54 ft	150.00 ml/min
6/24/2020 12:05 PM	21:00	6.72 pH	55.60 °F	490.76 µS/cm	3.37 mg/L	2.28 NTU	5.6 mV	5.54 ft	150.00 ml/min
6/24/2020 12:08 PM	24:00	6.72 pH	55.57 °F	494.74 µS/cm	2.66 mg/L	2.61 NTU	6.5 mV	5.54 ft	150.00 ml/min
6/24/2020 12:11 PM	27:00	6.72 pH	55.18 °F	492.02 µS/cm	2.22 mg/L	5.09 NTU	7.0 mV	5.54 ft	150.00 ml/min
6/24/2020 12:14 PM	30:00	6.73 pH	54.89 °F	491.24 µS/cm	1.87 mg/L	5.90 NTU	7.7 mV	5.54 ft	150.00 ml/min
6/24/2020 12:17 PM	33:00	6.73 pH	54.65 °F	492.20 µS/cm	1.60 mg/L	5.95 NTU	8.3 mV	5.54 ft	150.00 ml/min

6/24/2020 12:20 PM	36:00	6.73 pH	54.66 °F	494.45 µS/cm	1.39 mg/L	7.04 NTU	8.8 mV	5.54 ft	150.00 ml/min
6/24/2020 12:23 PM	39:00	6.73 pH	55.46 °F	495.17 µS/cm	1.35 mg/L	6.00 NTU	8.9 mV	5.54 ft	150.00 ml/min
6/24/2020 12:26 PM	42:00	6.73 pH	55.30 °F	493.97 µS/cm	1.20 mg/L	7.10 NTU	9.1 mV	5.54 ft	150.00 ml/min
6/24/2020 12:29 PM	45:00	6.72 pH	56.96 °F	506.83 µS/cm	1.26 mg/L	7.10 NTU	8.8 mV	5.54 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-126	Time 1232 Dtw 6.45 Iron 1.0 DO value at 45min

Low-Flow Test Report:

Test Date / Time: 6/24/2020 11:56:10 AM
Project: Edmonds Terminal 2Q20 MW-507
Operator Name: DSG

Location Name: MW-506 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.5 ft	Pump Type: Geopump series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.55 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 565206
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Test Notes:

Weather Conditions:
Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 11:56 AM	00:00	6.95 pH	66.75 °F	1,149.3 µS/cm	6.25 mg/L	-10.1 mV	6.50 ft	150.00 ml/min
6/24/2020 11:59 AM	03:00	6.69 pH	59.84 °F	1,008.7 µS/cm	2.35 mg/L	21.1 mV	6.50 ft	150.00 ml/min
6/24/2020 12:02 PM	06:00	6.68 pH	59.74 °F	1,001.5 µS/cm	2.29 mg/L	31.3 mV	6.50 ft	150.00 ml/min
6/24/2020 12:05 PM	09:00	6.68 pH	59.89 °F	1,000.5 µS/cm	2.00 mg/L	35.0 mV	6.50 ft	150.00 ml/min
6/24/2020 12:08 PM	12:00	6.68 pH	59.69 °F	996.17 µS/cm	1.63 mg/L	42.7 mV	6.50 ft	150.00 ml/min
6/24/2020 12:11 PM	15:00	6.68 pH	59.77 °F	1,000.7 µS/cm	1.45 mg/L	41.8 mV	6.50 ft	150.00 ml/min
6/24/2020 12:14 PM	18:00	6.67 pH	60.28 °F	1,003.2 µS/cm	1.35 mg/L	41.9 mV	6.50 ft	150.00 ml/min
6/24/2020 12:17 PM	21:00	6.68 pH	59.86 °F	995.41 µS/cm	1.02 mg/L	40.9 mV	6.50 ft	150.00 ml/min
6/24/2020 12:20 PM	24:00	6.67 pH	59.77 °F	996.61 µS/cm	0.82 mg/L	44.7 mV	6.50 ft	150.00 ml/min
6/24/2020 12:23 PM	27:00	6.67 pH	60.02 °F	995.56 µS/cm	0.70 mg/L	46.9 mV	6.50 ft	150.00 ml/min
6/24/2020 12:26 PM	30:00	6.67 pH	59.71 °F	989.64 µS/cm	0.62 mg/L	47.7 mV	6.50 ft	150.00 ml/min
6/24/2020 12:29 PM	33:00	6.66 pH	60.20 °F	995.69 µS/cm	0.53 mg/L	47.6 mV	6.50 ft	150.00 ml/min
6/24/2020 12:32 PM	36:00	6.66 pH	60.28 °F	989.48 µS/cm	0.53 mg/L	49.1 mV	6.50 ft	150.00 ml/min

6/24/2020 12:35 PM	39:00	6.66 pH	59.75 °F	987.69 µS/cm	0.44 mg/L	50.6 mV	6.50 ft	150.00 ml/min
6/24/2020 12:38 PM	42:00	6.66 pH	59.55 °F	981.86 µS/cm	0.42 mg/L	51.2 mV	6.50 ft	150.00 ml/min
6/24/2020 12:41 PM	45:00	6.66 pH	59.91 °F	992.86 µS/cm	0.38 mg/L	52.6 mV	6.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-507	Sample Time: 12:51 Final DTW: 7.05 ft btoc Final RDO: 0.38 mg/L Ferrous Iron: 1.0 mg/L RDO did not stabilize after 45 minutes

Low-Flow Test Report:

Test Date / Time: 6/24/2020 12:50:56 PM

Project: Edmonds Terminal 2Q20

Operator Name: RWB

Location Name: MW-101 Latitude: 47.8062057740765 Longitude: -122.390334606171 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.91 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2 gal Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.4 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

65F, mostly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2020 12:50 PM	00:00	7.13 pH	60.66 °F	598.20 µS/cm	2.30 mg/L	-51.5 mV	8.91 ft	150.00 ml/min
6/24/2020 12:53 PM	03:00	7.24 pH	60.24 °F	596.63 µS/cm	0.52 mg/L	-101.1 mV	8.91 ft	150.00 ml/min
6/24/2020 12:56 PM	06:00	7.22 pH	59.59 °F	595.20 µS/cm	0.40 mg/L	-103.4 mV	8.91 ft	150.00 ml/min
6/24/2020 12:59 PM	09:00	7.16 pH	59.04 °F	598.07 µS/cm	0.35 mg/L	-97.5 mV	8.91 ft	150.00 ml/min
6/24/2020 1:02 PM	12:00	7.12 pH	58.93 °F	597.45 µS/cm	0.31 mg/L	-96.2 mV	8.91 ft	150.00 ml/min
6/24/2020 1:05 PM	15:00	7.09 pH	58.63 °F	600.11 µS/cm	0.27 mg/L	-91.5 mV	8.91 ft	150.00 ml/min
6/24/2020 1:06 PM	15:38	7.08 pH	58.58 °F	600.75 µS/cm	0.27 mg/L	-91.7 mV	8.91 ft	150.00 ml/min
6/24/2020 1:09 PM	18:38	7.06 pH	58.52 °F	611.05 µS/cm	0.26 mg/L	-90.9 mV	8.91 ft	150.00 ml/min
6/24/2020 1:12 PM	21:38	7.05 pH	58.30 °F	626.23 µS/cm	0.24 mg/L	-91.8 mV	8.91 ft	150.00 ml/min
6/24/2020 1:15 PM	24:38	7.03 pH	58.18 °F	643.34 µS/cm	0.24 mg/L	-91.0 mV	8.91 ft	150.00 ml/min
6/24/2020 1:18 PM	27:39	7.02 pH	58.08 °F	663.60 µS/cm	0.26 mg/L	-93.4 mV	8.91 ft	150.00 ml/min
6/24/2020 1:21 PM	30:40	7.02 pH	57.94 °F	689.93 µS/cm	0.24 mg/L	-96.4 mV	8.91 ft	150.00 ml/min

6/24/2020 1:24 PM	33:40	7.01 pH	58.12 °F	705.12 µS/cm	0.24 mg/L	-96.8 mV	8.91 ft	150.00 ml/min
6/24/2020 1:27 PM	36:40	7.00 pH	58.03 °F	709.99 µS/cm	0.25 mg/L	-96.8 mV	8.91 ft	150.00 ml/min
6/24/2020 1:30 PM	39:40	7.00 pH	58.18 °F	718.54 µS/cm	0.25 mg/L	-98.3 mV	8.91 ft	150.00 ml/min
6/24/2020 1:33 PM	42:41	6.99 pH	58.26 °F	717.60 µS/cm	0.26 mg/L	-98.5 mV	8.91 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-101	Sample Time: 1333 Final DTW: 9.42 ft btoc Final RDO: 0.26 mg/L Ferrous Iron: >7.0 mg/L

Monitoring Wells/Piezometers

Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID
LM-2	1210	1.62	-	0.0	MW-126	1138	5.59	-	0.0	MW-13U	1250	17.19	-	0.0
MW-8R	1220	8.30	-	0.0	MW-143	1139	5.43	-	1.1	MW-108	1141	5.73	-	0.0
MW-20R	1217	6.98	-	0.0	MW-502	1235	5.32	-	0.0	MW-109	1147	6.82	-	0.0
MW-101	1213	9.0	-	0.0	MW-503	1237	5.22	-	0.0	MW-134X	1300	26.30	-	0.0
MW-104	1215	8.48	-	0.0	MW-504	1239	6.60	-	0.0	MW-135	1345	11.49	-	0.0
MW-129R	1230	5.38	-	3.7	MW-505	1241	4.65	-	0.0	MW-136	1249	7.22	-	0.4
MW-139R	1209	7.09	-	0.0	MW-506	1129	6.69	-	0.0	MW-147	1223	5.86	-	0.0
MW-518	1211	7.57	-	0.0	MW-507	1135	6.86	-	0.0	MW-149R	1228	7.41	-	0.0
MW-522	1219	8.20	-	0.0	MW-509	1208	3.53	-	0.0	MW-150	1229	6.92	-	0.0
MW-530	1214	6.89	-	0.0	MW-511	1153	7.98	-	0.0	MW-203	1255	22.52	-	0.0
MW-533	1202	5.15	-	0.0	MW-512	1156	6.53	-	0.0	MW-500	1236	5.03	-	0.0
MW-535	1205	4.96	-	0.0	MW-513	1201	4.39	-	0.0	MW-501	1233	5.04	-	0.8
					MW-514	1159	5.70	-	0.0	MW-523	1221	7.98	-	0.0
					MW-515	WASPS		-	0.0	MW-524	1225	7.77	-	0.0
					MW-516	1204	4.55	-	0.0	MW-527	1240	9.51	-	0.0
					MW-517	1202	5.29	-	0.0	MW-528	1244	9.56	-	0.0
					MW-519	1141	6.99	-	0.0					
					MW-520	1142	7.68	-	0.0					
					MW-521	1143	6.58	-	0.0					
					MW-525	1133	6.60	-	0.0					
					MW-526	1155	5.31	-	0.0					
					MW-531	1148	7.64	-	0.0					
					MW-532	1135	7.54	-	0.0					
					MW-534	1219	5.32	-	0.0					
					MW-ER	1225	6.97	-	1.4					

Low-Flow Test Report:

Test Date / Time: 9/21/2020 12:18:32 PM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-505 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.82 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.03 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 12:18 PM	00:00	6.72 pH	63.85 °F	1,749.0 µS/cm	1.31 mg/L	-50.2 mV	4.82 ft	150.00 ml/min
9/21/2020 12:21 PM	03:00	6.63 pH	63.35 °F	1,449.2 µS/cm	0.25 mg/L	-70.3 mV	4.82 ft	150.00 ml/min
9/21/2020 12:24 PM	06:00	6.60 pH	63.34 °F	3,107.9 µS/cm	0.17 mg/L	-78.4 mV	4.82 ft	150.00 ml/min
9/21/2020 12:27 PM	09:00	6.58 pH	63.43 °F	3,839.1 µS/cm	0.16 mg/L	-86.5 mV	4.82 ft	150.00 ml/min
9/21/2020 12:30 PM	12:00	6.57 pH	63.62 °F	5,010.8 µS/cm	0.11 mg/L	-93.2 mV	4.82 ft	150.00 ml/min
9/21/2020 12:33 PM	15:00	6.58 pH	63.66 °F	5,906.7 µS/cm	0.13 mg/L	-97.4 mV	4.82 ft	150.00 ml/min
9/21/2020 12:36 PM	18:00	6.57 pH	63.73 °F	7,035.2 µS/cm	0.10 mg/L	-102.8 mV	4.82 ft	150.00 ml/min
9/21/2020 12:39 PM	21:00	6.57 pH	63.65 °F	7,715.1 µS/cm	0.11 mg/L	-110.0 mV	4.82 ft	150.00 ml/min
9/21/2020 12:42 PM	24:00	6.58 pH	63.78 °F	8,398.5 µS/cm	0.13 mg/L	-109.7 mV	4.82 ft	150.00 ml/min
9/21/2020 12:45 PM	27:00	6.58 pH	63.76 °F	9,084.3 µS/cm	0.14 mg/L	-110.0 mV	4.82 ft	150.00 ml/min
9/21/2020 12:48 PM	30:00	6.59 pH	63.88 °F	9,080.6 µS/cm	0.17 mg/L	-105.6 mV	4.82 ft	150.00 ml/min
9/21/2020 12:51 PM	33:00	6.59 pH	63.96 °F	9,638.4 µS/cm	0.21 mg/L	-104.1 mV	4.82 ft	150.00 ml/min

9/21/2020 12:54 PM	36:00	6.60 pH	64.01 °F	9,921.7 µS/cm	0.23 mg/L	-99.8 mV	4.82 ft	150.00 ml/min
9/21/2020 12:57 PM	39:00	6.60 pH	64.03 °F	10,094 µS/cm	0.25 mg/L	-100.1 mV	4.82 ft	150.00 ml/min
9/21/2020 1:00 PM	42:00	6.60 pH	63.98 °F	10,064 µS/cm	0.29 mg/L	-94.3 mV	4.82 ft	150.00 ml/min
9/21/2020 1:03 PM	45:00	6.61 pH	64.05 °F	10,766 µS/cm	0.32 mg/L	-92.4 mV	4.82 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-505	Sample Time: 13:08 Final DTW: 4.85 ft btoc Final RDO: 0.32 mg/L RDO did not stabilize after 45 minutes
MW-505 MS	Sample Time: 13:18
MW-505 MSD	Sample Time: 13:28

Low-Flow Test Report:

Test Date / Time: 9/21/2020 12:18:47 PM

Project: Edmonds Terminal 3Q20 (2)

Operator Name: Julia Vidonish

Location Name: MW-507 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 6.87 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: -0.17 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 12:18 PM	00:00	6.71 pH	64.59 °F	1,008.5 µS/cm	3.00 mg/L	32.9 mV	6.87 ft	150.00 ml/min
9/21/2020 12:21 PM	03:00	6.71 pH	64.00 °F	952.20 µS/cm	0.36 mg/L	44.2 mV	6.87 ft	150.00 ml/min
9/21/2020 12:24 PM	06:00	6.70 pH	63.89 °F	921.86 µS/cm	0.31 mg/L	43.9 mV	6.87 ft	150.00 ml/min
9/21/2020 12:27 PM	09:00	6.69 pH	63.97 °F	890.10 µS/cm	0.28 mg/L	46.1 mV	6.87 ft	150.00 ml/min
9/21/2020 12:30 PM	12:00	6.68 pH	64.06 °F	876.84 µS/cm	0.30 mg/L	45.0 mV	6.87 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-507	Sample taken 1236, final DTW 7.04 ft, final RDO 0.31

Low-Flow Test Report:

Test Date / Time: 9/21/2020 1:08:43 PM

Project: Edmonds Terminal 3Q20

Operator Name: Julia Vidonish

Location Name: MW-506 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.7 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: -0.13 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Parameters not stabilized after 40 min, sampled at 40 min

Weather Conditions:

Partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 1:08 PM	00:00	6.43 pH	66.05 °F	4,526.2 µS/cm	4.03 mg/L	12.2 mV	6.70 ft	150.00 ml/min
9/21/2020 1:11 PM	03:00	6.43 pH	65.29 °F	4,720.8 µS/cm	0.43 mg/L	-60.5 mV	6.70 ft	150.00 ml/min
9/21/2020 1:14 PM	06:00	6.43 pH	65.12 °F	4,874.5 µS/cm	0.31 mg/L	-82.2 mV	6.70 ft	150.00 ml/min
9/21/2020 1:17 PM	09:00	6.44 pH	65.01 °F	5,077.8 µS/cm	0.25 mg/L	-96.9 mV	6.70 ft	150.00 ml/min
9/21/2020 1:20 PM	12:00	6.45 pH	65.05 °F	5,145.1 µS/cm	0.23 mg/L	-108.0 mV	6.70 ft	150.00 ml/min
9/21/2020 1:23 PM	15:00	6.45 pH	65.08 °F	5,188.7 µS/cm	0.21 mg/L	-116.2 mV	6.70 ft	150.00 ml/min
9/21/2020 1:26 PM	18:00	6.45 pH	65.18 °F	5,252.7 µS/cm	0.19 mg/L	-123.1 mV	6.70 ft	150.00 ml/min
9/21/2020 1:29 PM	21:00	6.44 pH	65.11 °F	5,144.1 µS/cm	0.17 mg/L	-128.5 mV	6.70 ft	150.00 ml/min
9/21/2020 1:32 PM	24:00	6.45 pH	64.83 °F	5,356.8 µS/cm	0.15 mg/L	-130.8 mV	6.70 ft	150.00 ml/min
9/21/2020 1:35 PM	27:00	6.45 pH	64.75 °F	5,446.5 µS/cm	0.15 mg/L	-133.1 mV	6.70 ft	150.00 ml/min
9/21/2020 1:38 PM	30:00	6.45 pH	64.86 °F	5,483.1 µS/cm	0.15 mg/L	-135.5 mV	6.70 ft	150.00 ml/min
9/21/2020 1:41 PM	33:00	6.49 pH	65.03 °F	4,544.8 µS/cm	0.18 mg/L	-139.1 mV	6.70 ft	150.00 ml/min
9/21/2020 1:44 PM	36:00	6.44 pH	65.27 °F	5,521.2 µS/cm	0.17 mg/L	-138.3 mV	6.70 ft	150.00 ml/min

9/21/2020 1:47 PM	39:00	6.45 pH	65.20 °F	5,590.1 µS/cm	0.16 mg/L	-138.9 mV	6.70 ft	150.00 ml/min
9/21/2020 1:50 PM	42:00	6.44 pH	65.42 °F	5,698.4 µS/cm	0.19 mg/L	-140.2 mV	6.70 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-506	Sample at 1351 final DTW 6.83, final RDO 0.19

Low-Flow Test Report:

Test Date / Time: 9/21/2020 1:14:20 PM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-502 Latitude: 47.8056964031666 Longitude: -122.388760484755 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.66 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.16 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Sunny, 65F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 1:14 PM	00:00	6.58 pH	60.31 °F	176.42 µS/cm	3.95 mg/L	24.4 mV	5.66 ft	150.00 ml/min
9/21/2020 1:17 PM	03:00	6.44 pH	59.43 °F	247.52 µS/cm	0.77 mg/L	31.3 mV	5.66 ft	150.00 ml/min
9/21/2020 1:20 PM	06:00	6.41 pH	59.04 °F	248.05 µS/cm	0.31 mg/L	30.9 mV	5.66 ft	150.00 ml/min
9/21/2020 1:23 PM	09:00	6.39 pH	58.82 °F	248.53 µS/cm	0.29 mg/L	30.4 mV	5.66 ft	150.00 ml/min
9/21/2020 1:26 PM	12:00	6.38 pH	58.76 °F	249.25 µS/cm	0.31 mg/L	30.1 mV	5.66 ft	150.00 ml/min
9/21/2020 1:29 PM	15:00	6.36 pH	58.77 °F	249.79 µS/cm	0.21 mg/L	29.3 mV	5.66 ft	150.00 ml/min
9/21/2020 1:32 PM	18:00	6.35 pH	58.52 °F	250.20 µS/cm	0.15 mg/L	28.8 mV	5.66 ft	150.00 ml/min
9/21/2020 1:35 PM	21:00	6.35 pH	58.48 °F	250.33 µS/cm	0.20 mg/L	29.1 mV	5.66 ft	150.00 ml/min
9/21/2020 1:38 PM	24:00	6.34 pH	58.50 °F	250.33 µS/cm	0.17 mg/L	30.3 mV	5.66 ft	150.00 ml/min
9/21/2020 1:41 PM	27:00	6.34 pH	58.63 °F	250.66 µS/cm	0.14 mg/L	31.6 mV	5.66 ft	150.00 ml/min
9/21/2020 1:44 PM	30:00	6.33 pH	58.85 °F	251.01 µS/cm	0.12 mg/L	31.3 mV	5.66 ft	150.00 ml/min
9/21/2020 1:47 PM	33:00	6.33 pH	58.76 °F	251.16 µS/cm	0.11 mg/L	32.0 mV	5.66 ft	150.00 ml/min

9/21/2020 1:50 PM	36:00	6.32 pH	58.76 °F	251.54 µS/cm	0.11 mg/L	32.7 mV	5.66 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-502	Sample Time: 1355 Final DTW: 5.82 ft btoc Final RDO: 0.11 mg/L

Low-Flow Test Report:

Test Date / Time: 9/21/2020 1:52:42 PM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-535 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.94 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1895 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.05 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 1:52 PM	00:00	7.04 pH	63.80 °F	35,985 µS/cm	5.93 mg/L	14.5 mV	4.94 ft	150.00 ml/min
9/21/2020 1:55 PM	03:00	7.18 pH	61.16 °F	37,184 µS/cm	4.78 mg/L	105.1 mV	4.94 ft	150.00 ml/min
9/21/2020 1:58 PM	06:00	7.19 pH	60.50 °F	37,382 µS/cm	4.73 mg/L	133.5 mV	4.94 ft	150.00 ml/min
9/21/2020 2:01 PM	09:00	7.19 pH	60.40 °F	37,382 µS/cm	4.61 mg/L	137.4 mV	4.94 ft	150.00 ml/min
9/21/2020 2:04 PM	12:00	7.20 pH	60.24 °F	37,476 µS/cm	4.54 mg/L	149.0 mV	4.94 ft	150.00 ml/min
9/21/2020 2:05 PM	12:38	7.20 pH	60.21 °F	37,538 µS/cm	4.51 mg/L	149.2 mV	4.94 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-535	Sample Time: 14:18 Final DTW: 4.99 ft btoc Final RDO: 4.51 mg/L

Low-Flow Test Report:

Test Date / Time: 9/21/2020 2:03:58 PM

Project: Edmonds Terminal 3Q20

Operator Name: KZ

Location Name: LM-2 Casing Type: PVC Screen Length: 5.5 ft Top of Screen: 2.5 ft Total Depth: 8 ft Initial Depth to Water: 2.04 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 5 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.93 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

65, overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 2:03 PM	00:00	5.54 pH	66.86 °F	8,399.4 µS/cm	5.78 mg/L	53.3 mV	2.04 ft	150.00 ml/min
9/21/2020 2:06 PM	03:00	6.12 pH	66.65 °F	9,877.4 µS/cm	0.88 mg/L	-86.8 mV	2.04 ft	150.00 ml/min
9/21/2020 2:09 PM	06:00	6.09 pH	66.76 °F	10,037 µS/cm	0.29 mg/L	-109.2 mV	2.04 ft	150.00 ml/min
9/21/2020 2:12 PM	09:00	6.09 pH	66.58 °F	10,064 µS/cm	0.22 mg/L	-121.2 mV	2.04 ft	150.00 ml/min
9/21/2020 2:15 PM	12:00	6.09 pH	66.51 °F	10,109 µS/cm	0.13 mg/L	-137.7 mV	2.04 ft	150.00 ml/min
9/21/2020 2:18 PM	15:00	6.11 pH	66.61 °F	10,009 µS/cm	4.38 mg/L	-89.4 mV	2.04 ft	150.00 ml/min
9/21/2020 2:21 PM	18:00	6.10 pH	66.64 °F	10,054 µS/cm	0.35 mg/L	-116.4 mV	2.04 ft	150.00 ml/min
9/21/2020 2:24 PM	21:00	6.17 pH	66.58 °F	9,953.4 µS/cm	1.42 mg/L	-124.0 mV	2.04 ft	150.00 ml/min
9/21/2020 2:27 PM	24:00	6.13 pH	66.52 °F	9,968.4 µS/cm	0.57 mg/L	-160.9 mV	2.04 ft	150.00 ml/min
9/21/2020 2:30 PM	27:00	6.12 pH	66.51 °F	9,988.3 µS/cm	0.09 mg/L	-181.4 mV	2.04 ft	150.00 ml/min
9/21/2020 2:33 PM	30:00	6.13 pH	66.49 °F	9,984.5 µS/cm	0.07 mg/L	-201.8 mV	2.04 ft	150.00 ml/min
9/21/2020 2:36 PM	33:00	6.14 pH	66.35 °F	10,005 µS/cm	0.16 mg/L	-221.6 mV	2.04 ft	150.00 ml/min

9/21/2020 2:39 PM	36:00	6.14 pH	66.38 °F	10,037 µS/cm	0.03 mg/L	-227.8 mV	2.04 ft	150.00 ml/min
9/21/2020 2:42 PM	39:00	6.14 pH	66.41 °F	10,049 µS/cm	0.01 mg/L	-241.1 mV	2.04 ft	150.00 ml/min
9/21/2020 2:45 PM	42:00	6.15 pH	66.37 °F	10,083 µS/cm	0.03 mg/L	-272.9 mV	2.04 ft	150.00 ml/min
9/21/2020 2:48 PM	45:00	6.16 pH	66.39 °F	10,113 µS/cm	0.01 mg/L	-293.3 mV	2.04 ft	150.00 ml/min

Samples

Sample ID:	Description:
LM-2	Sample Time: 1450 Final DTW: 2.97 ft btoc Final RDO: 0.01 mg/L RDO and ORP did not stabilize

Low-Flow Test Report:

Test Date / Time: 9/21/2020 2:28:00 PM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-503 Latitude: 47.8059371277072 Longitude: -122.388801053166 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.24 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.16 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy, 60F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 2:28 PM	00:00	6.41 pH	62.38 °F	398.95 µS/cm	0.60 mg/L	20.1 mV	5.24 ft	150.00 ml/min
9/21/2020 2:31 PM	03:00	6.43 pH	62.20 °F	399.54 µS/cm	0.23 mg/L	7.9 mV	5.24 ft	150.00 ml/min
9/21/2020 2:34 PM	06:00	6.44 pH	62.01 °F	395.36 µS/cm	0.17 mg/L	2.7 mV	5.24 ft	150.00 ml/min
9/21/2020 2:37 PM	09:00	6.45 pH	61.74 °F	396.66 µS/cm	0.14 mg/L	-0.4 mV	5.24 ft	150.00 ml/min
9/21/2020 2:40 PM	12:00	6.45 pH	61.71 °F	393.44 µS/cm	0.18 mg/L	-1.9 mV	5.24 ft	150.00 ml/min
9/21/2020 2:43 PM	15:00	6.44 pH	61.68 °F	395.03 µS/cm	0.14 mg/L	-5.3 mV	5.24 ft	150.00 ml/min
9/21/2020 2:46 PM	18:00	6.45 pH	61.63 °F	390.81 µS/cm	0.16 mg/L	-7.0 mV	5.24 ft	150.00 ml/min
9/21/2020 2:49 PM	21:00	6.44 pH	61.69 °F	391.23 µS/cm	0.20 mg/L	-7.7 mV	5.24 ft	150.00 ml/min
9/21/2020 2:52 PM	24:00	6.45 pH	61.71 °F	390.28 µS/cm	0.27 mg/L	-8.5 mV	5.24 ft	150.00 ml/min
9/21/2020 2:55 PM	27:00	6.45 pH	61.86 °F	392.44 µS/cm	0.21 mg/L	-10.7 mV	5.24 ft	150.00 ml/min
9/21/2020 2:58 PM	30:00	6.45 pH	61.65 °F	392.81 µS/cm	0.13 mg/L	-13.1 mV	5.24 ft	150.00 ml/min
9/21/2020 3:01 PM	33:00	6.45 pH	61.75 °F	390.73 µS/cm	0.12 mg/L	-14.0 mV	5.24 ft	150.00 ml/min

9/21/2020 3:04 PM	36:00	6.44 pH	61.65 °F	386.80 µS/cm	0.09 mg/L	-15.2 mV	5.24 ft	150.00 ml/min
9/21/2020 3:07 PM	39:00	6.44 pH	61.68 °F	383.65 µS/cm	0.11 mg/L	-15.2 mV	5.24 ft	150.00 ml/min
9/21/2020 3:10 PM	42:00	6.44 pH	61.77 °F	382.16 µS/cm	0.11 mg/L	-16.1 mV	5.24 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-503	Sample Time: 15:15 Final DTW: 5.41 ft btoc Final RDO: 0.11 mg/L

Low-Flow Test Report:

Test Date / Time: 9/21/2020 2:35:13 PM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-530 Well Diameter: 1 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 3 ft Total Depth: 8 ft Initial Depth to Water: 6.6 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 8 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 2:35 PM	00:00	6.67 pH	61.79 °F	33,926 µS/cm	1.12 mg/L	-141.6 mV	6.60 ft	150.00 ml/min
9/21/2020 2:38 PM	03:00	6.68 pH	59.95 °F	33,916 µS/cm	0.16 mg/L	-191.2 mV	6.60 ft	150.00 ml/min
9/21/2020 2:41 PM	06:00	6.68 pH	59.65 °F	34,060 µS/cm	0.10 mg/L	-211.4 mV	6.60 ft	150.00 ml/min
9/21/2020 2:44 PM	09:00	6.68 pH	59.40 °F	33,876 µS/cm	0.07 mg/L	-223.5 mV	6.60 ft	150.00 ml/min
9/21/2020 2:47 PM	12:00	6.69 pH	59.22 °F	33,628 µS/cm	0.06 mg/L	-235.1 mV	6.60 ft	150.00 ml/min
9/21/2020 2:50 PM	15:00	6.70 pH	59.23 °F	33,222 µS/cm	0.05 mg/L	-240.4 mV	6.60 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-530	Sample Time: 14:52 Final DTW: 7.20 ft btoc Final RDO: 0.06 mg/L

Low-Flow Test Report:

Test Date / Time: 9/22/2020 8:56:40 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-511 Latitude: 47.8056603732048 Longitude: -122.389496415853 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.38 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy, 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 8:56 AM	00:00	6.52 pH	56.85 °F	274.08 µS/cm	4.52 mg/L	165.7 mV	8.38 ft	150.00 ml/min
9/22/2020 8:59 AM	03:00	6.48 pH	56.71 °F	276.75 µS/cm	3.83 mg/L	152.6 mV	8.38 ft	150.00 ml/min
9/22/2020 9:02 AM	06:00	6.46 pH	56.54 °F	276.37 µS/cm	3.80 mg/L	156.3 mV	8.38 ft	150.00 ml/min
9/22/2020 9:05 AM	09:00	6.45 pH	56.47 °F	275.73 µS/cm	3.82 mg/L	156.9 mV	8.38 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-511	Sample Time: 0910 Final DTW: 8.38 ft btoc Final RDO: 3.82 mg/L

Low-Flow Test Report:

Test Date / Time: 9/22/2020 9:09:05 AM

Project: Edmonds Terminal 3Q20 (3)

Operator Name: Julia Vidonish

Location Name: MW-512 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 6.61 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6140 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: -0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Did not stabilize, sampled at 40 min

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 9:09 AM	00:00	6.74 pH	61.98 °F	8,715.3 µS/cm	6.12 mg/L	-2.8 mV	6.61 ft	150.00 ml/min
9/22/2020 9:12 AM	03:00	6.47 pH	63.39 °F	7,439.4 µS/cm	1.09 mg/L	-7.4 mV	6.61 ft	150.00 ml/min
9/22/2020 9:15 AM	06:00	6.33 pH	64.01 °F	4,980.8 µS/cm	0.65 mg/L	-4.1 mV	6.61 ft	150.00 ml/min
9/22/2020 9:18 AM	08:59	6.31 pH	64.26 °F	5,357.6 µS/cm	1.78 mg/L	-2.2 mV	6.61 ft	150.00 ml/min
9/22/2020 9:21 AM	11:59	6.30 pH	64.40 °F	4,847.4 µS/cm	2.50 mg/L	-6.7 mV	6.61 ft	150.00 ml/min
9/22/2020 9:23 AM	13:56	6.27 pH	64.59 °F	4,721.7 µS/cm	2.30 mg/L	-6.3 mV	6.61 ft	150.00 ml/min
9/22/2020 9:26 AM	16:56	6.26 pH	64.45 °F	4,675.2 µS/cm	0.35 mg/L	-3.2 mV	6.61 ft	150.00 ml/min
9/22/2020 9:29 AM	19:56	6.26 pH	64.49 °F	4,691.5 µS/cm	0.27 mg/L	-2.8 mV	6.61 ft	150.00 ml/min
9/22/2020 9:32 AM	22:56	6.29 pH	64.37 °F	5,260.8 µS/cm	0.40 mg/L	-2.7 mV	6.61 ft	150.00 ml/min
9/22/2020 9:35 AM	25:56	6.29 pH	64.38 °F	5,300.3 µS/cm	0.27 mg/L	-1.9 mV	6.61 ft	150.00 ml/min
9/22/2020 9:38 AM	28:56	6.29 pH	64.32 °F	5,251.3 µS/cm	0.26 mg/L	-0.3 mV	6.61 ft	150.00 ml/min
9/22/2020 9:41 AM	31:56	6.30 pH	64.48 °F	5,532.4 µS/cm	0.37 mg/L	1.5 mV	6.61 ft	150.00 ml/min
9/22/2020 9:44 AM	34:56	6.35 pH	64.38 °F	6,354.7 µS/cm	0.42 mg/L	3.5 mV	6.61 ft	150.00 ml/min

9/22/2020 9:47 AM	37:56	6.25 pH	64.91 °F	4,732.7 µS/cm	0.56 mg/L	4.7 mV	6.61 ft	150.00 ml/min
9/22/2020 9:50 AM	40:56	6.24 pH	65.11 °F	4,675.8 µS/cm	0.73 mg/L	5.9 mV	6.61 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-512	Sample taken 9:51, final DTW 6.72, final RDO 0.73

Low-Flow Test Report:

Test Date / Time: 9/22/2020 9:28:04 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-513 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.5 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 9:28 AM	00:00	6.53 pH	61.16 °F	19,243 µS/cm	5.42 mg/L	-24.0 mV	4.50 ft	150.00 ml/min
9/22/2020 9:31 AM	03:00	6.56 pH	62.14 °F	19,487 µS/cm	0.32 mg/L	-93.1 mV	4.50 ft	150.00 ml/min
9/22/2020 9:34 AM	06:00	6.56 pH	62.46 °F	19,609 µS/cm	0.18 mg/L	-106.9 mV	4.50 ft	150.00 ml/min
9/22/2020 9:37 AM	09:00	6.56 pH	62.70 °F	19,917 µS/cm	0.14 mg/L	-111.7 mV	4.50 ft	150.00 ml/min
9/22/2020 9:40 AM	12:00	6.57 pH	62.75 °F	19,639 µS/cm	0.15 mg/L	-118.4 mV	4.50 ft	150.00 ml/min
9/22/2020 9:43 AM	15:00	6.59 pH	63.25 °F	17,430 µS/cm	0.35 mg/L	-111.0 mV	4.50 ft	150.00 ml/min
9/22/2020 9:46 AM	18:00	6.59 pH	63.24 °F	17,003 µS/cm	0.39 mg/L	-104.5 mV	4.50 ft	150.00 ml/min
9/22/2020 9:49 AM	21:00	6.59 pH	63.19 °F	17,095 µS/cm	0.38 mg/L	-109.8 mV	4.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-513	Sample Time: 9:52 Final DTW: 4.50 ft btoc Final RDO: 0.38
MW-513 MS	Sample Time: 10:02
MW-513 MSD	Sample Time: 10:12

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/22/2020 10:02:00 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-520 Latitude: 47.8057141929509 Longitude: -122.390866354108 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.71 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2700 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 10:02 AM	00:00	6.73 pH	64.06 °F	1,139.1 µS/cm	1.46 mg/L	152.4 mV	7.71 ft	150.00 ml/min
9/22/2020 10:05 AM	03:00	6.80 pH	64.15 °F	1,080.9 µS/cm	0.60 mg/L	141.0 mV	7.71 ft	150.00 ml/min
9/22/2020 10:08 AM	06:00	6.81 pH	64.00 °F	1,068.1 µS/cm	0.42 mg/L	136.9 mV	7.71 ft	150.00 ml/min
9/22/2020 10:11 AM	09:00	6.83 pH	63.87 °F	1,033.6 µS/cm	0.32 mg/L	133.5 mV	7.71 ft	150.00 ml/min
9/22/2020 10:14 AM	12:00	6.83 pH	63.86 °F	1,008.8 µS/cm	0.28 mg/L	128.6 mV	7.71 ft	150.00 ml/min
9/22/2020 10:17 AM	15:00	6.84 pH	63.99 °F	1,009.1 µS/cm	0.27 mg/L	121.3 mV	7.71 ft	150.00 ml/min
9/22/2020 10:20 AM	18:00	6.84 pH	64.12 °F	1,001.6 µS/cm	0.29 mg/L	114.4 mV	7.71 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-520	Sample Time: 1030 Final DTW: 7.71 ft btoc Final RDO: 0.29 mg/L

Low-Flow Test Report:

Test Date / Time: 9/22/2020 10:36:05 AM

Project: Edmonds Terminal 3Q20 (4)

Operator Name: Julia Vidonish

Location Name: MW-101 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.89 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5752.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Did not stabilize, sampled at 40 min purge time. Petroleum odor.

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 10:36 AM	00:00	7.01 pH	63.53 °F	1,892.2 µS/cm	6.18 mg/L	-49.9 mV	8.89 ft	150.00 ml/min
9/22/2020 10:39 AM	03:00	7.07 pH	62.34 °F	1,460.4 µS/cm	0.63 mg/L	-136.4 mV	8.89 ft	150.00 ml/min
9/22/2020 10:42 AM	06:00	7.03 pH	61.98 °F	1,457.4 µS/cm	0.36 mg/L	-136.9 mV	8.89 ft	150.00 ml/min
9/22/2020 10:45 AM	09:00	6.98 pH	61.76 °F	1,439.4 µS/cm	0.31 mg/L	-132.0 mV	8.89 ft	150.00 ml/min
9/22/2020 10:48 AM	12:00	6.97 pH	61.64 °F	1,451.5 µS/cm	0.30 mg/L	-131.8 mV	8.89 ft	150.00 ml/min
9/22/2020 10:51 AM	15:00	6.94 pH	61.56 °F	1,455.3 µS/cm	0.27 mg/L	-129.0 mV	8.89 ft	150.00 ml/min
9/22/2020 10:56 AM	20:21	6.91 pH	61.29 °F	1,938.3 µS/cm	0.26 mg/L	-125.2 mV	8.89 ft	150.00 ml/min
9/22/2020 10:59 AM	23:21	6.91 pH	61.31 °F	2,029.9 µS/cm	0.21 mg/L	-136.2 mV	8.89 ft	150.00 ml/min
9/22/2020 11:02 AM	26:21	6.90 pH	61.33 °F	2,079.2 µS/cm	0.20 mg/L	-138.9 mV	8.89 ft	150.00 ml/min
9/22/2020 11:05 AM	29:21	6.89 pH	61.33 °F	2,112.8 µS/cm	0.19 mg/L	-132.4 mV	8.89 ft	150.00 ml/min
9/22/2020 11:08 AM	32:21	6.87 pH	61.40 °F	2,127.3 µS/cm	0.19 mg/L	-131.1 mV	8.89 ft	150.00 ml/min
9/22/2020 11:11 AM	35:21	6.86 pH	61.45 °F	2,141.2 µS/cm	0.21 mg/L	-133.3 mV	8.89 ft	150.00 ml/min
9/22/2020 11:14 AM	38:21	6.86 pH	61.50 °F	2,152.7 µS/cm	0.25 mg/L	-127.2 mV	8.89 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-101	Sample taken 11:20, final DTW 9.1
DUP-2	Sample taken 1120, final DTW 9.1

Low-Flow Test Report:

Test Date / Time: 9/22/2020 10:38:26 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-514 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.82 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 5850 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 10:38 AM	00:00	6.57 pH	63.20 °F	9,908.7 µS/cm	2.42 mg/L	-57.0 mV	4.82 ft	150.00 ml/min
9/22/2020 10:41 AM	03:00	6.54 pH	62.67 °F	7,401.1 µS/cm	0.37 mg/L	-68.7 mV	4.82 ft	150.00 ml/min
9/22/2020 10:44 AM	06:00	6.53 pH	62.61 °F	7,490.9 µS/cm	0.26 mg/L	-81.2 mV	4.82 ft	150.00 ml/min
9/22/2020 10:47 AM	09:00	6.52 pH	62.64 °F	7,572.1 µS/cm	0.22 mg/L	-88.7 mV	4.82 ft	150.00 ml/min
9/22/2020 10:50 AM	12:00	6.51 pH	62.67 °F	7,759.7 µS/cm	0.12 mg/L	-91.0 mV	4.82 ft	150.00 ml/min
9/22/2020 10:53 AM	15:00	6.51 pH	62.74 °F	7,935.3 µS/cm	0.11 mg/L	-93.5 mV	4.82 ft	150.00 ml/min
9/22/2020 10:56 AM	18:00	6.50 pH	62.96 °F	8,162.6 µS/cm	0.17 mg/L	-95.6 mV	4.82 ft	150.00 ml/min
9/22/2020 10:59 AM	21:00	6.50 pH	63.19 °F	8,333.7 µS/cm	0.11 mg/L	-95.4 mV	4.82 ft	150.00 ml/min
9/22/2020 11:02 AM	24:00	6.49 pH	63.76 °F	8,450.4 µS/cm	0.10 mg/L	-94.0 mV	4.82 ft	150.00 ml/min
9/22/2020 11:05 AM	27:00	6.49 pH	63.67 °F	8,611.2 µS/cm	0.16 mg/L	-97.1 mV	4.82 ft	150.00 ml/min
9/22/2020 11:08 AM	30:00	6.48 pH	64.61 °F	8,776.2 µS/cm	0.14 mg/L	-97.8 mV	4.82 ft	150.00 ml/min
9/22/2020 11:11 AM	33:00	6.48 pH	64.74 °F	9,284.1 µS/cm	0.11 mg/L	-95.9 mV	4.82 ft	150.00 ml/min

9/22/2020 11:14 AM	36:00	6.48 pH	64.61 °F	8,942.7 µS/cm	0.13 mg/L	-99.2 mV	4.82 ft	150.00 ml/min
9/22/2020 11:17 AM	39:00	6.47 pH	65.19 °F	9,070.6 µS/cm	0.13 mg/L	-100.5 mV	4.82 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-514	Sample Time: 11:22 Final DTW: 4.82 ft btoc Final RDO: 0.13 mg/L

Low-Flow Test Report:

Test Date / Time: 9/22/2020 11:20:07 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-521 Latitude: 47.8055203064911 Longitude: -122.39084020257 Well Diameter: 6.61 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.61 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Sunny, 60F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 11:20 AM	00:00	6.87 pH	66.70 °F	793.71 µS/cm	3.21 mg/L	115.0 mV	6.61 ft	150.00 ml/min
9/22/2020 11:23 AM	03:00	6.85 pH	64.74 °F	805.33 µS/cm	0.37 mg/L	106.4 mV	6.61 ft	150.00 ml/min
9/22/2020 11:26 AM	06:00	6.84 pH	64.59 °F	805.48 µS/cm	0.26 mg/L	105.1 mV	6.61 ft	150.00 ml/min
9/22/2020 11:29 AM	09:00	6.83 pH	64.80 °F	806.25 µS/cm	0.38 mg/L	104.8 mV	6.61 ft	150.00 ml/min
9/22/2020 11:32 AM	12:00	6.83 pH	64.98 °F	806.07 µS/cm	0.83 mg/L	104.8 mV	6.61 ft	150.00 ml/min
9/22/2020 11:35 AM	15:00	6.84 pH	65.28 °F	806.21 µS/cm	0.98 mg/L	105.0 mV	6.61 ft	150.00 ml/min
9/22/2020 11:38 AM	18:00	6.83 pH	65.38 °F	806.14 µS/cm	1.03 mg/L	105.2 mV	6.61 ft	150.00 ml/min
9/22/2020 11:41 AM	21:00	6.83 pH	65.38 °F	806.01 µS/cm	1.11 mg/L	105.5 mV	6.61 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-521

Sample Time: 1145
Final DTW: 6.61 ft btoc
Final RDO: mg/L

Low-Flow Test Report:

Test Date / Time: 9/22/2020 12:19:03 PM

Project: Edmonds Terminal 3Q20

Operator Name: Julia Vidonish

<p>Location Name: MW-504 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.73 ft</p>	<p>Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4977.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545</p>
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Test Notes:

Weather Conditions:

Sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/22/2020 12:19 PM	00:00	6.31 pH	67.38 °F	22,139 µS/cm	0.61 mg/L	4.1 mV	6.73 ft	150.00 ml/min
9/22/2020 12:22 PM	03:00	6.31 pH	67.03 °F	18,501 µS/cm	0.21 mg/L	-4.2 mV	6.73 ft	150.00 ml/min
9/22/2020 12:25 PM	06:00	6.34 pH	66.71 °F	15,714 µS/cm	0.20 mg/L	-3.3 mV	6.73 ft	150.00 ml/min
9/22/2020 12:28 PM	09:11	6.35 pH	66.48 °F	12,563 µS/cm	0.27 mg/L	2.3 mV	6.73 ft	150.00 ml/min
9/22/2020 12:31 PM	12:11	6.35 pH	66.64 °F	8,766.1 µS/cm	0.27 mg/L	5.2 mV	6.73 ft	150.00 ml/min
9/22/2020 12:34 PM	15:11	6.34 pH	66.84 °F	11,818 µS/cm	0.45 mg/L	9.1 mV	6.73 ft	150.00 ml/min
9/22/2020 12:37 PM	18:11	6.33 pH	66.82 °F	11,982 µS/cm	0.40 mg/L	11.2 mV	6.73 ft	150.00 ml/min
9/22/2020 12:40 PM	21:11	6.32 pH	66.69 °F	12,111 µS/cm	0.46 mg/L	13.5 mV	6.73 ft	150.00 ml/min
9/22/2020 12:43 PM	24:11	6.30 pH	66.59 °F	12,444 µS/cm	0.51 mg/L	15.6 mV	6.73 ft	150.00 ml/min
9/22/2020 12:46 PM	27:11	6.29 pH	66.55 °F	12,721 µS/cm	0.53 mg/L	17.2 mV	6.73 ft	150.00 ml/min
9/22/2020 12:49 PM	30:11	6.28 pH	66.49 °F	13,056 µS/cm	0.54 mg/L	18.6 mV	6.73 ft	150.00 ml/min
9/22/2020 12:52 PM	33:11	6.27 pH	66.44 °F	13,270 µS/cm	0.55 mg/L	19.9 mV	6.73 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-504	Sample taken 13:00, final DTW 6.73, final RDO 0.55

Low-Flow Test Report:

Test Date / Time: 9/23/2020 8:29:58 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-515 Latitude: 47.80654805411 Longitude: -122.389940991998 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.98 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Light Rain 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 8:29 AM	00:00	6.57 pH	63.27 °F	24,621 µS/cm	1.19 mg/L	157.4 mV	4.98 ft	150.00 ml/min
9/23/2020 8:32 AM	03:00	6.56 pH	63.60 °F	24,678 µS/cm	0.44 mg/L	109.4 mV	4.98 ft	150.00 ml/min
9/23/2020 8:35 AM	06:00	6.56 pH	63.75 °F	24,379 µS/cm	0.31 mg/L	89.8 mV	4.98 ft	150.00 ml/min
9/23/2020 8:38 AM	09:00	6.56 pH	63.64 °F	24,022 µS/cm	0.26 mg/L	77.4 mV	4.98 ft	150.00 ml/min
9/23/2020 8:41 AM	12:00	6.57 pH	63.65 °F	23,471 µS/cm	0.23 mg/L	67.3 mV	4.98 ft	150.00 ml/min
9/23/2020 8:44 AM	15:00	6.57 pH	63.79 °F	23,035 µS/cm	0.21 mg/L	62.4 mV	4.98 ft	150.00 ml/min
9/23/2020 8:47 AM	18:00	6.58 pH	63.74 °F	22,775 µS/cm	0.19 mg/L	61.1 mV	4.98 ft	150.00 ml/min
9/23/2020 8:50 AM	21:00	6.58 pH	63.86 °F	22,692 µS/cm	0.17 mg/L	60.7 mV	4.98 ft	150.00 ml/min
9/23/2020 8:53 AM	24:00	6.58 pH	63.88 °F	22,630 µS/cm	0.16 mg/L	59.9 mV	4.98 ft	150.00 ml/min
9/23/2020 8:56 AM	27:00	6.59 pH	63.98 °F	22,596 µS/cm	0.15 mg/L	59.1 mV	4.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-515	Sample Time: 0900 Final DTW: 4.98 ft btoc Final RDO: 0.15 mg/L

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/23/2020 9:01:45 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-518 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 2.5 ft Total Depth: 12.5 ft Initial Depth to Water: 8.58 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4950 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Rainy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 9:01 AM	00:00	6.99 pH	63.28 °F	3,342.1 µS/cm	0.85 mg/L	-87.5 mV	8.58 ft	150.00 ml/min
9/23/2020 9:04 AM	03:00	6.99 pH	63.78 °F	3,278.0 µS/cm	0.31 mg/L	-146.3 mV	8.58 ft	150.00 ml/min
9/23/2020 9:07 AM	06:00	6.99 pH	63.97 °F	3,229.1 µS/cm	0.17 mg/L	-163.6 mV	8.58 ft	150.00 ml/min
9/23/2020 9:10 AM	09:00	6.99 pH	64.04 °F	3,153.8 µS/cm	0.13 mg/L	-171.7 mV	8.58 ft	150.00 ml/min
9/23/2020 9:13 AM	12:00	6.99 pH	64.06 °F	3,118.2 µS/cm	0.20 mg/L	-180.0 mV	8.58 ft	150.00 ml/min
9/23/2020 9:16 AM	15:00	7.00 pH	64.09 °F	3,052.9 µS/cm	0.16 mg/L	-185.8 mV	8.58 ft	150.00 ml/min
9/23/2020 9:19 AM	18:00	7.01 pH	64.08 °F	3,004.8 µS/cm	0.17 mg/L	-185.3 mV	8.58 ft	150.00 ml/min
9/23/2020 9:22 AM	21:00	7.00 pH	64.10 °F	3,013.8 µS/cm	0.21 mg/L	-186.7 mV	8.58 ft	150.00 ml/min
9/23/2020 9:25 AM	24:00	7.00 pH	64.12 °F	2,994.0 µS/cm	0.22 mg/L	-190.2 mV	8.58 ft	150.00 ml/min
9/23/2020 9:28 AM	27:00	7.00 pH	64.12 °F	2,973.5 µS/cm	0.17 mg/L	-191.1 mV	8.58 ft	150.00 ml/min
9/23/2020 9:31 AM	30:00	6.99 pH	64.15 °F	2,966.7 µS/cm	0.16 mg/L	-192.8 mV	8.58 ft	150.00 ml/min
9/23/2020 9:34 AM	33:00	7.00 pH	64.14 °F	2,934.8 µS/cm	0.17 mg/L	-197.9 mV	8.58 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-518	Sample Time: 9:42 Final DTW: 8.58 ft btoc Final RDO: 0.17 mg/L
Dup-4	

Low-Flow Test Report:

Test Date / Time: 9/23/2020 9:21:45 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-516 Latitude: 47.8062985502031 Longitude: -122.390109971166 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.65 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Rainy 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 9:21 AM	00:00	6.58 pH	65.81 °F	13,699 µS/cm	1.59 mg/L	63.2 mV	4.65 ft	150.00 ml/min
9/23/2020 9:24 AM	03:00	6.57 pH	66.31 °F	13,652 µS/cm	0.57 mg/L	68.4 mV	4.65 ft	150.00 ml/min
9/23/2020 9:27 AM	06:00	6.56 pH	66.42 °F	13,460 µS/cm	0.52 mg/L	71.5 mV	4.65 ft	150.00 ml/min
9/23/2020 9:30 AM	09:00	6.55 pH	66.49 °F	12,974 µS/cm	0.23 mg/L	73.1 mV	4.65 ft	150.00 ml/min
9/23/2020 9:33 AM	12:00	6.55 pH	66.65 °F	12,240 µS/cm	0.19 mg/L	73.6 mV	4.65 ft	150.00 ml/min
9/23/2020 9:36 AM	15:00	6.54 pH	66.78 °F	11,484 µS/cm	0.20 mg/L	73.8 mV	4.65 ft	150.00 ml/min
9/23/2020 9:39 AM	18:00	6.53 pH	66.84 °F	10,992 µS/cm	0.29 mg/L	74.4 mV	4.65 ft	150.00 ml/min
9/23/2020 9:42 AM	21:00	6.53 pH	66.85 °F	10,801 µS/cm	0.37 mg/L	75.4 mV	4.65 ft	150.00 ml/min
9/23/2020 9:45 AM	24:00	6.53 pH	66.89 °F	10,679 µS/cm	0.25 mg/L	76.3 mV	4.65 ft	150.00 ml/min
9/23/2020 9:48 AM	27:00	6.53 pH	66.94 °F	10,605 µS/cm	0.29 mg/L	77.0 mV	4.65 ft	150.00 ml/min
9/23/2020 9:51 AM	30:00	6.53 pH	66.95 °F	10,587 µS/cm	0.28 mg/L	77.5 mV	4.65 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-516	Sample Time: 1000 Final DTW: 6.45 ft btoc Final RDO: 0.29 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 10:12:45 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-20R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4 ft Total Depth: 14.5 ft Initial Depth to Water: 6.52 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Rainy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 10:12 AM	00:00	6.27 pH	62.36 °F	26,173 µS/cm	1.59 mg/L	-99.1 mV	6.52 ft	150.00 ml/min
9/23/2020 10:15 AM	03:00	6.51 pH	60.20 °F	32,992 µS/cm	0.21 mg/L	-79.9 mV	6.52 ft	150.00 ml/min
9/23/2020 10:18 AM	06:00	6.60 pH	59.79 °F	33,048 µS/cm	0.12 mg/L	-129.7 mV	6.52 ft	150.00 ml/min
9/23/2020 10:21 AM	09:00	6.63 pH	59.50 °F	32,973 µS/cm	0.08 mg/L	-161.6 mV	6.52 ft	150.00 ml/min
9/23/2020 10:24 AM	12:00	6.65 pH	59.52 °F	33,813 µS/cm	0.12 mg/L	-168.7 mV	6.52 ft	150.00 ml/min
9/23/2020 10:27 AM	15:00	6.66 pH	59.51 °F	33,084 µS/cm	0.09 mg/L	-173.6 mV	6.52 ft	150.00 ml/min
9/23/2020 10:30 AM	18:00	6.66 pH	59.46 °F	32,665 µS/cm	0.10 mg/L	-178.1 mV	6.52 ft	150.00 ml/min
9/23/2020 10:33 AM	21:00	6.66 pH	59.41 °F	32,707 µS/cm	0.08 mg/L	-178.4 mV	6.52 ft	150.00 ml/min
9/23/2020 10:36 AM	24:00	6.67 pH	59.32 °F	32,757 µS/cm	0.07 mg/L	-180.0 mV	6.52 ft	150.00 ml/min
9/23/2020 10:39 AM	27:00	6.67 pH	59.25 °F	32,686 µS/cm	0.09 mg/L	-182.8 mV	6.52 ft	150.00 ml/min
9/23/2020 10:42 AM	30:00	6.68 pH	59.19 °F	32,588 µS/cm	0.06 mg/L	-186.0 mV	6.52 ft	150.00 ml/min
9/23/2020 10:45 AM	33:00	6.68 pH	59.16 °F	32,723 µS/cm	0.06 mg/L	-183.4 mV	6.52 ft	150.00 ml/min

9/23/2020 10:48 AM	36:00	6.69 pH	59.18 °F	32,955 µS/cm	0.06 mg/L	-185.1 mV	6.52 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-20R	Sample Time: 11:02 Final DTW: 6.52 ft btoc Final RDO: 0.06 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 10:27:54 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-517 Latitude: 47.8060938570236 Longitude: -122.3902316764 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.41 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Heavy rain, 59F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 10:27 AM	00:00	6.52 pH	64.71 °F	15,398 µS/cm	0.92 mg/L	90.9 mV	5.41 ft	150.00 ml/min
9/23/2020 10:30 AM	03:00	6.52 pH	64.71 °F	15,399 µS/cm	0.74 mg/L	88.8 mV	5.41 ft	150.00 ml/min
9/23/2020 10:33 AM	06:00	6.52 pH	65.15 °F	15,385 µS/cm	0.41 mg/L	87.1 mV	5.41 ft	150.00 ml/min
9/23/2020 10:36 AM	09:00	6.53 pH	65.15 °F	14,840 µS/cm	0.53 mg/L	85.5 mV	5.41 ft	150.00 ml/min
9/23/2020 10:39 AM	12:00	6.53 pH	65.47 °F	13,428 µS/cm	0.50 mg/L	82.8 mV	5.41 ft	150.00 ml/min
9/23/2020 10:42 AM	15:00	6.53 pH	65.52 °F	12,578 µS/cm	0.69 mg/L	81.0 mV	5.41 ft	150.00 ml/min
9/23/2020 10:45 AM	18:00	6.53 pH	65.65 °F	11,714 µS/cm	0.58 mg/L	79.1 mV	5.41 ft	150.00 ml/min
9/23/2020 10:48 AM	21:00	6.53 pH	65.37 °F	11,363 µS/cm	0.65 mg/L	78.4 mV	5.41 ft	150.00 ml/min
9/23/2020 10:51 AM	24:00	6.53 pH	65.50 °F	11,268 µS/cm	0.76 mg/L	77.9 mV	5.41 ft	150.00 ml/min
9/23/2020 10:54 AM	27:00	6.53 pH	65.52 °F	11,254 µS/cm	0.64 mg/L	77.9 mV	5.41 ft	150.00 ml/min
9/23/2020 10:57 AM	30:00	6.53 pH	65.63 °F	11,411 µS/cm	0.44 mg/L	78.0 mV	5.41 ft	150.00 ml/min
9/23/2020 11:00 AM	33:00	6.53 pH	66.06 °F	11,567 µS/cm	0.53 mg/L	78.0 mV	5.41 ft	150.00 ml/min

9/23/2020 11:03 AM	36:00	6.53 pH	65.69 °F	11,595 µS/cm	0.52 mg/L	78.1 mV	5.41 ft	150.00 ml/min
9/23/2020 11:06 AM	39:00	6.53 pH	65.70 °F	11,597 µS/cm	0.67 mg/L	78.0 mV	5.41 ft	150.00 ml/min
9/23/2020 11:09 AM	42:00	6.53 pH	65.62 °F	11,575 µS/cm	0.56 mg/L	77.9 mV	5.41 ft	150.00 ml/min
9/23/2020 11:12 AM	45:00	6.53 pH	65.76 °F	11,573 µS/cm	0.59 mg/L	77.6 mV	5.41 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-517	Sample Time: 1115 Final DTW: 5.41 ft btoc Final RDO: 0.58 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 11:27:26 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-522 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.21 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2925 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.07 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Rainy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 11:27 AM	00:00	6.98 pH	60.38 °F	1,580.6 µS/cm	2.12 mg/L	-49.2 mV	8.21 ft	150.00 ml/min
9/23/2020 11:28 AM	01:30	6.95 pH	60.11 °F	1,299.7 µS/cm	0.51 mg/L	-60.0 mV	8.21 ft	150.00 ml/min
9/23/2020 11:31 AM	04:30	6.96 pH	60.07 °F	992.41 µS/cm	0.32 mg/L	-67.8 mV	8.21 ft	150.00 ml/min
9/23/2020 11:34 AM	07:30	6.96 pH	59.95 °F	913.12 µS/cm	0.30 mg/L	-73.3 mV	8.21 ft	150.00 ml/min
9/23/2020 11:37 AM	10:30	6.95 pH	59.87 °F	881.16 µS/cm	0.22 mg/L	-77.8 mV	8.21 ft	150.00 ml/min
9/23/2020 11:40 AM	13:30	6.94 pH	59.88 °F	863.19 µS/cm	0.20 mg/L	-79.5 mV	8.21 ft	150.00 ml/min
9/23/2020 11:43 AM	16:30	6.92 pH	59.85 °F	853.25 µS/cm	0.21 mg/L	-84.4 mV	8.21 ft	150.00 ml/min
9/23/2020 11:46 AM	19:30	6.90 pH	59.78 °F	843.94 µS/cm	0.20 mg/L	-88.7 mV	8.21 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-522

Sample Time: 11:52
Final DTW: 8.28 ft btoc
Final RDO: 0.20 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 11:45:35 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-519 Latitude: 47.8055610654934 Longitude: -122.39069737494 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Heavy rain, 58F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 11:45 AM	00:00	6.78 pH	66.43 °F	1,501.1 µS/cm	0.35 mg/L	35.7 mV	7.00 ft	150.00 ml/min
9/23/2020 11:48 AM	03:00	6.76 pH	66.65 °F	1,462.9 µS/cm	0.23 mg/L	37.4 mV	7.00 ft	150.00 ml/min
9/23/2020 11:51 AM	06:00	6.75 pH	66.86 °F	1,454.6 µS/cm	0.19 mg/L	35.6 mV	7.00 ft	150.00 ml/min
9/23/2020 11:54 AM	09:00	6.74 pH	67.02 °F	1,451.1 µS/cm	0.18 mg/L	34.1 mV	7.00 ft	150.00 ml/min
9/23/2020 11:57 AM	12:00	6.74 pH	67.14 °F	1,443.7 µS/cm	0.18 mg/L	33.3 mV	7.00 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-519	Sample Time: 1200 Final DTW: 7.00 ft btoc Final RDO: 0.18 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 12:18:08 PM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-8R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.22 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

Rainy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 12:18 PM	00:00	6.94 pH	60.52 °F	583.64 µS/cm	1.28 mg/L	-6.9 mV	8.22 ft	150.00 ml/min
9/23/2020 12:21 PM	03:00	7.00 pH	60.19 °F	542.10 µS/cm	0.32 mg/L	-13.7 mV	8.22 ft	150.00 ml/min
9/23/2020 12:24 PM	06:00	7.01 pH	60.09 °F	539.01 µS/cm	0.25 mg/L	-20.4 mV	8.22 ft	150.00 ml/min
9/23/2020 12:27 PM	09:00	7.01 pH	60.04 °F	538.25 µS/cm	0.20 mg/L	-26.0 mV	8.22 ft	150.00 ml/min
9/23/2020 12:30 PM	12:00	7.01 pH	60.04 °F	537.75 µS/cm	0.20 mg/L	-32.9 mV	8.22 ft	150.00 ml/min
9/23/2020 12:33 PM	15:00	6.99 pH	60.05 °F	537.72 µS/cm	0.20 mg/L	-39.3 mV	8.22 ft	150.00 ml/min
9/23/2020 12:36 PM	18:00	7.01 pH	60.03 °F	538.04 µS/cm	0.19 mg/L	-42.5 mV	8.22 ft	150.00 ml/min
9/23/2020 12:39 PM	21:00	7.00 pH	60.02 °F	536.82 µS/cm	0.18 mg/L	-47.6 mV	8.22 ft	150.00 ml/min
9/23/2020 12:42 PM	24:00	7.00 pH	60.04 °F	535.68 µS/cm	0.20 mg/L	-52.8 mV	8.22 ft	150.00 ml/min
9/23/2020 12:45 PM	27:00	6.99 pH	60.02 °F	536.98 µS/cm	0.19 mg/L	-55.7 mV	8.22 ft	150.00 ml/min
9/23/2020 12:48 PM	30:00	6.96 pH	60.01 °F	536.88 µS/cm	0.19 mg/L	-58.2 mV	8.22 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-8R	Sample Time: 12:52 Final DTW: 8.22 ft btoc Final RDO: 0.19 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 12:22:13 PM

Project: Edmonds Terminal 3Q20

Operator Name: KZ

Location Name: MW-126 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 3.7 ft Total Depth: 14.2 ft Initial Depth to Water: 5.98 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.66 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

55, rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 12:22 PM	00:00	7.10 pH	59.38 °F	503.72 µS/cm	5.22 mg/L	45.1 mV	5.98 ft	150.00 ml/min
9/23/2020 12:25 PM	03:00	6.61 pH	57.48 °F	461.49 µS/cm	3.25 mg/L	43.5 mV	5.98 ft	150.00 ml/min
9/23/2020 12:28 PM	06:00	6.58 pH	57.16 °F	462.89 µS/cm	3.09 mg/L	42.4 mV	5.98 ft	150.00 ml/min
9/23/2020 12:31 PM	09:00	6.57 pH	56.99 °F	459.34 µS/cm	2.88 mg/L	40.6 mV	5.98 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-126	Sample Time: 1240 Final DTW: 6.64 ft btoc Final RDO: 2.88 mg/L

Low-Flow Test Report:

Test Date / Time: 9/23/2020 12:31:20 PM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-143 Latitude: 47.8054984632557 Longitude: -122.390563599765 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.6 ft Top of Screen: 3.5 ft Total Depth: 14.1 ft Initial Depth to Water: 5.51 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6872.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Heavy rain, 58F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/23/2020 12:31 PM	00:00	6.48 pH	61.39 °F	548.90 µS/cm	0.56 mg/L	-32.2 mV	5.51 ft	150.00 ml/min
9/23/2020 12:34 PM	03:00	6.49 pH	59.94 °F	456.79 µS/cm	0.26 mg/L	-29.4 mV	5.51 ft	150.00 ml/min
9/23/2020 12:37 PM	06:00	6.45 pH	59.86 °F	401.66 µS/cm	0.25 mg/L	-20.4 mV	5.51 ft	150.00 ml/min
9/23/2020 12:40 PM	09:00	6.41 pH	59.59 °F	375.48 µS/cm	0.24 mg/L	-18.6 mV	5.51 ft	150.00 ml/min
9/23/2020 12:43 PM	12:00	6.42 pH	59.21 °F	392.79 µS/cm	0.41 mg/L	-17.4 mV	5.51 ft	150.00 ml/min
9/23/2020 12:46 PM	15:00	6.42 pH	59.10 °F	412.81 µS/cm	0.40 mg/L	-13.7 mV	5.51 ft	150.00 ml/min
9/23/2020 12:49 PM	18:00	6.42 pH	58.88 °F	445.87 µS/cm	0.39 mg/L	-10.3 mV	5.51 ft	150.00 ml/min
9/23/2020 12:52 PM	21:00	6.39 pH	58.40 °F	464.06 µS/cm	0.41 mg/L	-7.5 mV	5.51 ft	150.00 ml/min
9/23/2020 12:55 PM	24:00	6.38 pH	58.33 °F	449.48 µS/cm	0.82 mg/L	-3.8 mV	5.51 ft	150.00 ml/min
9/23/2020 1:05 PM	33:49	6.33 pH	58.21 °F	529.86 µS/cm	1.08 mg/L	-27.8 mV	5.51 ft	150.00 ml/min
9/23/2020 1:08 PM	36:49	6.35 pH	58.18 °F	258.49 µS/cm	1.79 mg/L	-21.7 mV	5.51 ft	150.00 ml/min
9/23/2020 1:11 PM	39:49	6.33 pH	58.17 °F	121.62 µS/cm	2.32 mg/L	-18.6 mV	5.51 ft	150.00 ml/min

9/23/2020 1:14 PM	42:49	6.31 pH	58.14 °F	482.67 µS/cm	2.48 mg/L	-13.4 mV	5.51 ft	150.00 ml/min
9/23/2020 1:17 PM	45:49	6.30 pH	58.28 °F	455.51 µS/cm	2.60 mg/L	-18.1 mV	5.51 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-143	<p>Sample Time: 1320 Final DTW: Final RDO: 2.40 mg/L</p> <p>Conductivity and ORP did not stabilize after 45 minutes.</p>

Low-Flow Test Report:

Test Date / Time: 9/21/2020 8:49:20 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-532 Latitude: 47.8056576709567 Longitude: -122.390307448804 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.62 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Foggy, 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 8:49 AM	00:00	5.03 pH	62.71 °F	447.75 µS/cm	4.74 mg/L	287.3 mV	7.62 ft	150.00 ml/min
9/21/2020 8:52 AM	03:00	5.23 pH	63.01 °F	361.70 µS/cm	3.51 mg/L	278.3 mV	7.62 ft	150.00 ml/min
9/21/2020 8:55 AM	06:00	5.29 pH	63.22 °F	326.28 µS/cm	3.18 mg/L	276.3 mV	7.62 ft	150.00 ml/min
9/21/2020 8:58 AM	09:00	5.24 pH	62.65 °F	195.43 µS/cm	3.80 mg/L	280.0 mV	7.62 ft	150.00 ml/min
9/21/2020 9:01 AM	12:00	5.29 pH	63.05 °F	136.06 µS/cm	2.53 mg/L	288.8 mV	7.62 ft	150.00 ml/min
9/21/2020 9:04 AM	15:00	5.28 pH	63.09 °F	131.29 µS/cm	2.47 mg/L	291.5 mV	7.62 ft	150.00 ml/min
9/21/2020 9:07 AM	18:00	5.28 pH	62.89 °F	40.23 µS/cm	2.92 mg/L	271.2 mV	7.62 ft	150.00 ml/min
9/21/2020 9:10 AM	21:00	5.37 pH	62.49 °F	95.32 µS/cm	2.23 mg/L	275.1 mV	7.62 ft	150.00 ml/min
9/21/2020 9:13 AM	24:00	5.38 pH	62.55 °F	99.02 µS/cm	2.37 mg/L	276.4 mV	7.62 ft	150.00 ml/min
9/21/2020 9:16 AM	27:00	5.37 pH	62.54 °F	101.22 µS/cm	1.98 mg/L	278.1 mV	7.62 ft	150.00 ml/min
9/21/2020 9:19 AM	30:00	5.37 pH	62.58 °F	101.86 µS/cm	1.51 mg/L	279.2 mV	7.62 ft	150.00 ml/min
9/21/2020 9:22 AM	33:00	5.39 pH	62.53 °F	102.74 µS/cm	1.38 mg/L	280.2 mV	7.62 ft	150.00 ml/min

9/21/2020 9:25 AM	36:00	5.41 pH	62.43 °F	103.33 µS/cm	1.20 mg/L	280.7 mV	7.62 ft	150.00 ml/min
9/21/2020 9:28 AM	39:00	5.43 pH	62.36 °F	103.19 µS/cm	0.93 mg/L	280.8 mV	7.62 ft	150.00 ml/min
9/21/2020 9:31 AM	42:00	5.47 pH	62.23 °F	103.60 µS/cm	0.96 mg/L	280.6 mV	7.62 ft	150.00 ml/min
9/21/2020 9:34 AM	45:00	5.50 pH	62.15 °F	101.08 µS/cm	0.77 mg/L	280.1 mV	7.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-532	<p>Sample Time: 0935</p> <p>Final DTW: 8.64 ft btoc</p> <p>Final RDO: 0.77 mg/L</p> <p>RDO did not stabilize after 45 minutes.</p>

Low-Flow Test Report:

Test Date / Time: 9/21/2020 8:54:32 AM

Project: Edmonds Terminal 3Q20

Operator Name: KZ

Location Name: MW-525 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.5 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 2.35 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

58, Fog

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 8:54 AM	00:00	6.68 pH	60.74 °F	1,627.0 µS/cm	0.72 mg/L	-144.8 mV	6.50 ft	150.00 ml/min
9/21/2020 8:57 AM	03:00	6.38 pH	62.03 °F	1,233.9 µS/cm	0.29 mg/L	-132.7 mV	6.50 ft	150.00 ml/min
9/21/2020 9:00 AM	06:00	6.22 pH	62.58 °F	1,177.8 µS/cm	0.23 mg/L	-107.8 mV	6.50 ft	150.00 ml/min
9/21/2020 9:03 AM	09:00	6.25 pH	62.93 °F	1,193.0 µS/cm	0.20 mg/L	-94.3 mV	6.50 ft	150.00 ml/min
9/21/2020 9:06 AM	12:00	6.30 pH	63.18 °F	1,194.3 µS/cm	0.20 mg/L	-105.3 mV	6.50 ft	150.00 ml/min
9/21/2020 9:09 AM	15:00	6.25 pH	63.45 °F	1,187.1 µS/cm	0.28 mg/L	-95.2 mV	6.50 ft	150.00 ml/min
9/21/2020 9:12 AM	18:00	6.25 pH	63.49 °F	1,193.7 µS/cm	0.19 mg/L	-96.1 mV	6.50 ft	150.00 ml/min
9/21/2020 9:15 AM	21:00	6.21 pH	63.58 °F	1,204.9 µS/cm	0.28 mg/L	-102.0 mV	6.50 ft	150.00 ml/min
9/21/2020 9:18 AM	24:00	6.22 pH	63.39 °F	1,190.3 µS/cm	0.41 mg/L	-117.5 mV	6.50 ft	150.00 ml/min
9/21/2020 9:21 AM	27:00	6.20 pH	63.48 °F	1,174.4 µS/cm	0.40 mg/L	-114.8 mV	6.50 ft	150.00 ml/min
9/21/2020 9:24 AM	30:00	6.24 pH	63.40 °F	1,215.6 µS/cm	0.42 mg/L	-116.0 mV	6.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-525	Sample Time: 0940 Final DTW: 8.85 ftbtoc Final RDO: 0.42 mg/L ORP did stabilize

Low-Flow Test Report:

Test Date / Time: 9/21/2020 9:13:57 AM

Project: Edmonds Terminal 3Q20

Operator Name: Julia Vidonish

Location Name: MW-531 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.7 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 9:13 AM	00:00	6.06 pH	61.27 °F	2,658.9 µS/cm	3.31 mg/L	81.5 mV	7.70 ft	150.00 ml/min
9/21/2020 9:16 AM	03:00	6.19 pH	63.67 °F	2,436.9 µS/cm	0.33 mg/L	38.5 mV	7.70 ft	150.00 ml/min
9/21/2020 9:19 AM	06:00	6.21 pH	64.20 °F	2,583.3 µS/cm	0.32 mg/L	30.8 mV	7.70 ft	150.00 ml/min
9/21/2020 9:22 AM	09:00	6.23 pH	64.55 °F	2,515.2 µS/cm	0.24 mg/L	24.9 mV	7.70 ft	150.00 ml/min
9/21/2020 9:25 AM	12:00	6.23 pH	64.71 °F	2,396.2 µS/cm	0.24 mg/L	23.4 mV	7.70 ft	150.00 ml/min
9/21/2020 9:28 AM	15:00	6.21 pH	64.95 °F	2,313.5 µS/cm	0.24 mg/L	21.7 mV	7.70 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-531	Sample time, 9:42, final DTW 7.70, final RDO 0.24,

Low-Flow Test Report:

Test Date / Time: 9/21/2020 10:12:54 AM

Project: Edmonds Terminal 3Q20

Operator Name: Julia Vidonish

Location Name: MW-139R Well Diameter: 2 in Casing Type: PVC Screen Length: 6.1 ft Top of Screen: 4.4 ft Total Depth: 14.9 ft Initial Depth to Water: 7.21 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 10:12 AM	00:00	6.49 pH	60.42 °F	0.33 µS/cm	6.95 mg/L	135.2 mV	7.21 ft	150.00 ml/min
9/21/2020 10:15 AM	03:00	6.86 pH	59.62 °F	38,159 µS/cm	4.28 mg/L	130.0 mV	7.21 ft	150.00 ml/min
9/21/2020 10:18 AM	06:00	6.85 pH	59.56 °F	38,456 µS/cm	4.54 mg/L	123.9 mV	7.21 ft	150.00 ml/min
9/21/2020 10:21 AM	09:00	6.86 pH	59.48 °F	38,427 µS/cm	4.74 mg/L	120.0 mV	7.21 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-139R	Sample taken 10:27, final DTW 7.20, final RDO 4.76,

Low-Flow Test Report:

Test Date / Time: 9/21/2020 10:23:31 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-533 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.86 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 10:23 AM	00:00	7.06 pH	58.82 °F	36,562 µS/cm	5.87 mg/L	166.7 mV	4.86 ft	150.00 ml/min
9/21/2020 10:26 AM	03:00	7.37 pH	58.80 °F	38,834 µS/cm	4.69 mg/L	157.5 mV	4.86 ft	150.00 ml/min
9/21/2020 10:29 AM	06:00	7.39 pH	58.77 °F	41,496 µS/cm	4.63 mg/L	139.7 mV	4.86 ft	150.00 ml/min
9/21/2020 10:32 AM	09:00	7.40 pH	58.71 °F	41,486 µS/cm	4.64 mg/L	132.8 mV	4.86 ft	150.00 ml/min
9/21/2020 10:35 AM	12:00	7.41 pH	58.72 °F	41,446 µS/cm	4.63 mg/L	130.9 mV	4.86 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-533	Sample Time: 10:42 Final DTW: 4.86 ft btoc Final RDO: 4.63 mg/L

Low-Flow Test Report:

Test Date / Time: 9/21/2020 10:27:09 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-129R Latitude: 47.8059263187713 Longitude: -122.387607134879 Well Diameter: 2 in Casing Type: PVC Screen Length: 3 ft Top of Screen: 10 ft Total Depth: 13 ft Initial Depth to Water: 5.68 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.75 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Foggy, 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 10:27 AM	00:00	6.53 pH	57.74 °F	1,383.0 µS/cm	2.79 mg/L	68.4 mV	5.68 ft	150.00 ml/min
9/21/2020 10:30 AM	03:00	6.63 pH	57.94 °F	1,393.2 µS/cm	0.77 mg/L	31.1 mV	5.68 ft	150.00 ml/min
9/21/2020 10:33 AM	06:00	6.66 pH	57.99 °F	1,391.9 µS/cm	0.41 mg/L	-0.3 mV	5.68 ft	150.00 ml/min
9/21/2020 10:36 AM	09:00	6.68 pH	57.93 °F	1,390.7 µS/cm	0.28 mg/L	-29.7 mV	5.68 ft	150.00 ml/min
9/21/2020 10:39 AM	12:00	6.68 pH	57.87 °F	1,391.1 µS/cm	0.23 mg/L	-51.7 mV	5.68 ft	150.00 ml/min
9/21/2020 10:42 AM	15:00	6.69 pH	57.86 °F	1,390.3 µS/cm	0.21 mg/L	-66.3 mV	5.68 ft	150.00 ml/min
9/21/2020 10:45 AM	18:00	6.70 pH	57.81 °F	1,388.4 µS/cm	0.19 mg/L	-76.4 mV	5.68 ft	150.00 ml/min
9/21/2020 10:48 AM	21:00	6.70 pH	57.86 °F	1,388.9 µS/cm	0.18 mg/L	-83.2 mV	5.68 ft	150.00 ml/min
9/21/2020 10:51 AM	24:00	6.71 pH	57.92 °F	1,386.1 µS/cm	0.36 mg/L	-88.3 mV	5.68 ft	150.00 ml/min
9/21/2020 10:54 AM	27:00	6.71 pH	57.94 °F	1,384.1 µS/cm	0.23 mg/L	-92.6 mV	5.68 ft	150.00 ml/min
9/21/2020 10:57 AM	30:00	6.71 pH	57.97 °F	1,385.5 µS/cm	0.32 mg/L	-96.0 mV	5.68 ft	150.00 ml/min
9/21/2020 11:00 AM	33:00	6.72 pH	57.96 °F	1,385.0 µS/cm	0.29 mg/L	-98.4 mV	5.68 ft	150.00 ml/min

9/21/2020 11:03 AM	36:00	6.72 pH	57.91 °F	1,385.1 µS/cm	0.23 mg/L	-100.4 mV	5.68 ft	150.00 ml/min
9/21/2020 11:06 AM	39:00	6.72 pH	57.90 °F	1,380.5 µS/cm	0.38 mg/L	-102.0 mV	5.68 ft	150.00 ml/min
9/21/2020 11:09 AM	42:00	6.72 pH	57.97 °F	1,380.3 µS/cm	0.21 mg/L	-103.6 mV	5.68 ft	150.00 ml/min
9/21/2020 11:12 AM	45:00	6.72 pH	57.88 °F	1,380.5 µS/cm	0.27 mg/L	-104.6 mV	5.68 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-129R	<p>Sample Time: 1105 Final DTW: 6.44 ft btoc Final RDO: 0.27 mg/L</p> <p>RDO did not stabilize after 45 minutes.</p>

Low-Flow Test Report:

Test Date / Time: 9/21/2020 10:32:29 AM

Project: Edmonds Terminal 3Q20

Operator Name: KZ

Location Name: MW-526 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.96 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5850 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

60, fog

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 10:32 AM	00:00	6.20 pH	61.85 °F	264.61 µS/cm	0.65 mg/L	12.0 mV	5.96 ft	150.00 ml/min
9/21/2020 10:35 AM	03:00	6.19 pH	62.06 °F	265.73 µS/cm	0.24 mg/L	9.0 mV	5.96 ft	150.00 ml/min
9/21/2020 10:38 AM	06:00	6.21 pH	62.34 °F	277.68 µS/cm	0.13 mg/L	5.4 mV	5.96 ft	150.00 ml/min
9/21/2020 10:41 AM	09:00	6.20 pH	62.56 °F	276.04 µS/cm	0.09 mg/L	3.9 mV	5.96 ft	150.00 ml/min
9/21/2020 10:44 AM	12:00	6.19 pH	62.62 °F	276.71 µS/cm	0.12 mg/L	2.8 mV	5.96 ft	150.00 ml/min
9/21/2020 10:47 AM	15:00	6.18 pH	62.52 °F	274.00 µS/cm	0.11 mg/L	3.1 mV	5.96 ft	150.00 ml/min
9/21/2020 10:50 AM	18:00	6.19 pH	62.66 °F	264.54 µS/cm	0.07 mg/L	6.5 mV	5.96 ft	150.00 ml/min
9/21/2020 10:53 AM	21:00	6.15 pH	62.74 °F	260.62 µS/cm	0.06 mg/L	6.2 mV	5.96 ft	150.00 ml/min
9/21/2020 10:56 AM	24:00	6.14 pH	62.76 °F	253.39 µS/cm	0.05 mg/L	7.2 mV	5.96 ft	150.00 ml/min
9/21/2020 10:59 AM	27:00	6.10 pH	62.83 °F	241.90 µS/cm	0.05 mg/L	11.5 mV	5.96 ft	150.00 ml/min
9/21/2020 11:02 AM	30:00	6.09 pH	62.87 °F	237.25 µS/cm	0.05 mg/L	11.7 mV	5.96 ft	150.00 ml/min
9/21/2020 11:05 AM	33:00	6.07 pH	62.94 °F	235.78 µS/cm	0.05 mg/L	11.9 mV	5.96 ft	150.00 ml/min

9/21/2020 11:08 AM	36:00	6.09 pH	62.97 °F	240.54 µS/cm	0.04 mg/L	11.7 mV	5.96 ft	150.00 ml/min
9/21/2020 11:11 AM	39:00	6.11 pH	63.02 °F	246.00 µS/cm	0.05 mg/L	12.1 mV	5.96 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-526	Sample Time: 1120 Final DTW: 6.56 fbtoc Final RDO: 0.05 mg/L

Low-Flow Test Report:

Test Date / Time: 9/21/2020 11:02:04 AM

Project: Edmonds Terminal 3Q20

Operator Name: Julia Vidonish

Location Name: MW-509 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.62 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 467545
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 11:02 AM	00:00	6.12 pH	63.72 °F	24,271 µS/cm	3.34 mg/L	23.5 mV	3.62 ft	150.00 ml/min
9/21/2020 11:05 AM	03:00	6.46 pH	64.38 °F	37,960 µS/cm	2.79 mg/L	70.0 mV	3.62 ft	150.00 ml/min
9/21/2020 11:08 AM	06:00	6.47 pH	64.55 °F	37,942 µS/cm	2.77 mg/L	84.4 mV	3.62 ft	150.00 ml/min
9/21/2020 11:11 AM	09:00	6.48 pH	64.66 °F	38,055 µS/cm	2.87 mg/L	93.9 mV	3.62 ft	150.00 ml/min
9/21/2020 11:14 AM	12:00	6.48 pH	64.96 °F	37,921 µS/cm	2.77 mg/L	100.6 mV	3.62 ft	150.00 ml/min
9/21/2020 11:17 AM	15:00	6.42 pH	65.23 °F	36,059 µS/cm	1.73 mg/L	101.5 mV	3.62 ft	150.00 ml/min
9/21/2020 11:20 AM	18:00	6.46 pH	65.19 °F	37,177 µS/cm	2.44 mg/L	105.6 mV	3.62 ft	150.00 ml/min
9/21/2020 11:23 AM	21:00	6.49 pH	65.12 °F	38,631 µS/cm	2.84 mg/L	109.0 mV	3.62 ft	150.00 ml/min
9/21/2020 11:26 AM	24:00	6.48 pH	65.16 °F	37,613 µS/cm	2.73 mg/L	111.0 mV	3.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-509

Sample taken 11:29, final DTW 3.62, final RDO 2.73

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/21/2020 11:23:00 AM

Project: Edmonds Terminal 3Q20

Operator Name: Daniel Sly Gilbert

Location Name: MW-534 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.6 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 2152.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Sample Time: 11:42

Final DTW: 3.70 ft btoc

Final RDO: 0.13 mg/L

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 11:23 AM	00:00	6.65 pH	64.45 °F	19,687 µS/cm	0.35 mg/L	-80.2 mV	3.60 ft	150.00 ml/min
9/21/2020 11:26 AM	03:00	6.63 pH	65.14 °F	19,704 µS/cm	0.17 mg/L	-109.3 mV	3.60 ft	150.00 ml/min
9/21/2020 11:29 AM	06:00	6.62 pH	65.46 °F	19,464 µS/cm	0.13 mg/L	-118.3 mV	3.60 ft	150.00 ml/min
9/21/2020 11:32 AM	09:00	6.62 pH	65.59 °F	19,262 µS/cm	0.13 mg/L	-127.5 mV	3.60 ft	150.00 ml/min
9/21/2020 11:35 AM	12:00	6.62 pH	65.74 °F	19,005 µS/cm	0.13 mg/L	-132.9 mV	3.60 ft	150.00 ml/min
9/21/2020 11:37 AM	14:21	6.62 pH	65.84 °F	19,499 µS/cm	0.11 mg/L	-138.1 mV	3.60 ft	150.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 9/21/2020 11:56:59 AM

Project: Edmonds Terminal 3Q20

Operator Name: RWB

Location Name: MW-ER Latitude: 47.80600603462 Longitude: -122.388211637735 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.18 ft	Pump Type: Geotechnical Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2700 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.32 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy, 60F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 11:56 AM	00:00	6.43 pH	61.98 °F	1,221.6 µS/cm	0.61 mg/L	-47.5 mV	7.18 ft	150.00 ml/min
9/21/2020 11:59 AM	03:00	6.48 pH	62.92 °F	1,161.9 µS/cm	0.10 mg/L	-73.3 mV	7.18 ft	150.00 ml/min
9/21/2020 12:02 PM	06:00	6.51 pH	63.12 °F	1,292.9 µS/cm	0.13 mg/L	-86.1 mV	7.18 ft	150.00 ml/min
9/21/2020 12:05 PM	09:00	6.52 pH	63.69 °F	1,455.4 µS/cm	0.07 mg/L	-91.9 mV	7.18 ft	150.00 ml/min
9/21/2020 12:08 PM	12:00	6.51 pH	64.07 °F	1,445.0 µS/cm	0.06 mg/L	-93.0 mV	7.18 ft	150.00 ml/min
9/21/2020 12:11 PM	15:00	6.50 pH	64.24 °F	1,426.6 µS/cm	0.06 mg/L	-93.5 mV	7.18 ft	150.00 ml/min
9/21/2020 12:14 PM	18:00	6.50 pH	64.18 °F	1,396.8 µS/cm	0.06 mg/L	-94.9 mV	7.18 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-ER	Sample Time: 1215 Final DTW: 7.50 ft btoc Final RDO: 0.06 mg/L DUP-1 collected
DUP-1	

Low-Flow Test Report:

Test Date / Time: 9/21/2020 12:02:53 PM

Project: Edmonds Terminal 3Q20

Operator Name: KZ

Location Name: MW-104 Well Diameter: 2 in Casing Type: PVC Screen Length: 15 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.12 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 12 ft Estimated Total Volume Pumped: 7200 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.28 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469050
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Test Notes:

Weather Conditions:

62, fog

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
9/21/2020 12:02 PM	00:00	6.35 pH	61.77 °F	5,063.0 µS/cm	1.32 mg/L	-102.7 mV	8.12 ft	150.00 ml/min
9/21/2020 12:05 PM	03:00	6.33 pH	61.68 °F	5,144.4 µS/cm	0.43 mg/L	-149.8 mV	8.12 ft	150.00 ml/min
9/21/2020 12:08 PM	06:00	6.33 pH	62.13 °F	5,147.1 µS/cm	0.47 mg/L	-153.7 mV	8.12 ft	150.00 ml/min
9/21/2020 12:11 PM	09:00	6.32 pH	61.53 °F	5,151.5 µS/cm	0.26 mg/L	-160.0 mV	8.12 ft	150.00 ml/min
9/21/2020 12:14 PM	12:00	6.32 pH	60.82 °F	5,184.5 µS/cm	0.11 mg/L	-179.1 mV	8.12 ft	150.00 ml/min
9/21/2020 12:17 PM	15:00	6.32 pH	60.69 °F	5,195.5 µS/cm	0.08 mg/L	-187.1 mV	8.12 ft	150.00 ml/min
9/21/2020 12:20 PM	18:00	6.32 pH	60.50 °F	5,163.8 µS/cm	0.09 mg/L	-187.0 mV	8.12 ft	150.00 ml/min
9/21/2020 12:23 PM	21:00	6.33 pH	60.43 °F	5,170.9 µS/cm	0.06 mg/L	-192.2 mV	8.12 ft	150.00 ml/min
9/21/2020 12:26 PM	24:00	6.34 pH	60.49 °F	5,220.8 µS/cm	0.08 mg/L	-194.2 mV	8.12 ft	150.00 ml/min
9/21/2020 12:29 PM	27:00	6.35 pH	60.44 °F	5,189.7 µS/cm	0.14 mg/L	-191.1 mV	8.12 ft	150.00 ml/min
9/21/2020 12:32 PM	30:00	6.36 pH	60.45 °F	5,153.6 µS/cm	0.08 mg/L	-191.5 mV	8.12 ft	150.00 ml/min
9/21/2020 12:35 PM	33:00	6.38 pH	60.49 °F	5,152.7 µS/cm	0.09 mg/L	-194.9 mV	8.12 ft	150.00 ml/min

9/21/2020 12:38 PM	36:00	6.39 pH	60.42 °F	5,101.1 µS/cm	0.11 mg/L	-193.8 mV	8.12 ft	150.00 ml/min
9/21/2020 12:41 PM	39:00	6.41 pH	60.56 °F	5,117.1 µS/cm	0.08 mg/L	-192.5 mV	8.12 ft	150.00 ml/min
9/21/2020 12:44 PM	42:00	6.42 pH	60.55 °F	5,062.8 µS/cm	0.08 mg/L	-195.0 mV	8.12 ft	150.00 ml/min
9/21/2020 12:47 PM	45:00	6.43 pH	60.54 °F	5,037.6 µS/cm	0.06 mg/L	-195.8 mV	8.12 ft	150.00 ml/min
9/21/2020 12:50 PM	48:00	6.45 pH	60.62 °F	5,020.0 µS/cm	0.10 mg/L	-194.5 mV	8.12 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-104	Sample Time: 1300 Final DTW: 8.40 ft btoc Final RDO: 0.10 mg/L RDO did not stabilize

Monitoring Wells/Piezometers

Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID
LM-2	1212	1.79	-	0.0	MW-126	1140	6.13	-	0.0	MW-13U	1309	17.49	-	0.0
MW-8R	1211	8.33	-	0.0	MW-143	1142	5.90	-	1.3	MW-108	1205	5.78	-	0.0
MW-20R	1237	6.89	-	0.0	MW-502	1301	5.72	-	0.0	MW-109	1200	6.78	-	0.0
MW-101	1242	9.12	-	1.4	MW-503	1303	5.33	-	0.0	MW-134X	1300	26.37	-	0.0
MW-104	1240	8.48	-	0.0	MW-504	1305	6.80	-	0.0	MW-135	1244	11.02	-	0.0
MW-129R	1150	5.79	-	6.5	MW-505	1307	4.92	-	0.0	MW-136	1248	8.39	-	1.2
MW-139R	1126	7.31	-	1.4	MW-506	1219	6.88	-	0.0	MW-147	1216	5.80	-	0.0
MW-518	1244	8.68	-	0.0	MW-507	1216	7.02	-	0.0	MW-149R	1224	7.26	-	0.0
MW-522	1208	8.30	-	0.0	MW-509	1130	3.75	-	0.0	MW-150	1227	7.12	-	0.0
MW-530	1209	6.79	-	0.0	MW-511	1235	8.47	-	0.0	MW-203	1304	22.79	-	0.0
MW-533	1146	5.28	-	0.0	MW-512	1234	6.76	-	0.0	MW-500	1233	6.70	-	0.0
MW-535	1138	4.98	-	0.0	MW-513	1235	4.60	-	0.0	MW-501	1229	5.94	-	0.7
					MW-514	1237	4.90	-	0.0	MW-523	1214	8.02	-	0.0
					MW-515	1240	5.11	-	0.0	MW-524	1217	7.83	-	0.0
					MW-516	1241	4.78	-	0.0	MW-527	1241	10.10	-	1.1
					MW-517	1243	5.52	-	0.0	MW-528	1243	10.99	-	0.0
					MW-519	1124	7.05	-	0.0					
					MW-520	1155	7.74	-	0.0					
					MW-521	1235	6.36	-	0.0					
					MW-525	1158	6.80	-	0.0					
					MW-526	1233	6.00	-	0.0					
					MW-531	1201	7.70	-	0.0					
					MW-532	1206	7.81	-	0.0					
					MW-534	1134	3.71	-	0.4					
					MW-ER	1142	7.28	-	3.2					

Low-Flow Test Report:

Test Date / Time: 11/4/2020 10:44:46 AM

Project: Edmonds Terminal 4Q20 (2)

Operator Name: MM

Location Name: MW-ER Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.96 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.74 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 10:44 AM	00:00	6.69 pH	61.68 °F	1,412.4 µS/cm	0.16 mg/L	-124.6 mV	6.96 ft	150.00 ml/min
11/4/2020 10:47 AM	03:00	6.69 pH	61.72 °F	1,431.3 µS/cm	0.16 mg/L	-133.6 mV	6.96 ft	150.00 ml/min
11/4/2020 10:50 AM	06:00	6.68 pH	61.75 °F	1,396.6 µS/cm	0.11 mg/L	-137.1 mV	6.96 ft	150.00 ml/min
11/4/2020 10:53 AM	09:00	6.68 pH	61.75 °F	1,404.7 µS/cm	0.09 mg/L	-139.9 mV	6.96 ft	150.00 ml/min
11/4/2020 10:56 AM	12:00	6.67 pH	61.87 °F	1,367.1 µS/cm	0.10 mg/L	-142.7 mV	6.96 ft	150.00 ml/min
11/4/2020 10:59 AM	15:00	6.67 pH	61.86 °F	1,407.2 µS/cm	0.08 mg/L	-145.3 mV	6.96 ft	150.00 ml/min
11/4/2020 11:02 AM	18:00	6.67 pH	61.89 °F	1,419.0 µS/cm	0.07 mg/L	-146.5 mV	6.96 ft	150.00 ml/min
11/4/2020 11:05 AM	21:00	6.67 pH	61.92 °F	1,410.2 µS/cm	0.07 mg/L	-147.6 mV	6.96 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-ER	Sample time: 1115 Final DTW: 7.5 Final RDO:0.07 Ferrous iron: 6.0
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/4/2020 11:00:55 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-525 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.32 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 2 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy, 55 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 11:00 AM	00:00	5.58 pH	61.93 °F	524.09 µS/cm	0.31 mg/L	165.1 mV	6.32 ft	150.00 ml/min
11/4/2020 11:03 AM	03:00	5.59 pH	61.74 °F	525.63 µS/cm	0.30 mg/L	181.2 mV	6.32 ft	150.00 ml/min
11/4/2020 11:06 AM	06:00	5.57 pH	61.77 °F	532.56 µS/cm	0.37 mg/L	172.4 mV	6.32 ft	150.00 ml/min
11/4/2020 11:09 AM	09:00	5.60 pH	61.65 °F	539.82 µS/cm	0.35 mg/L	160.9 mV	6.32 ft	150.00 ml/min
11/4/2020 11:12 AM	12:00	5.62 pH	61.63 °F	544.69 µS/cm	0.19 mg/L	159.9 mV	6.32 ft	150.00 ml/min
11/4/2020 11:15 AM	15:00	5.66 pH	61.68 °F	560.92 µS/cm	0.16 mg/L	148.7 mV	6.32 ft	150.00 ml/min
11/4/2020 11:18 AM	18:00	5.71 pH	61.62 °F	587.98 µS/cm	0.21 mg/L	133.9 mV	6.32 ft	150.00 ml/min
11/4/2020 11:21 AM	21:00	5.73 pH	61.67 °F	600.72 µS/cm	0.17 mg/L	125.2 mV	6.32 ft	150.00 ml/min
11/4/2020 11:24 AM	24:00	5.75 pH	61.66 °F	615.54 µS/cm	0.15 mg/L	113.7 mV	6.32 ft	150.00 ml/min
11/4/2020 11:27 AM	27:00	5.77 pH	61.69 °F	635.35 µS/cm	0.20 mg/L	58.2 mV	6.32 ft	150.00 ml/min
11/4/2020 11:30 AM	30:00	5.79 pH	61.61 °F	656.03 µS/cm	0.21 mg/L	4.5 mV	6.32 ft	150.00 ml/min
11/4/2020 11:33 AM	33:00	5.82 pH	61.77 °F	687.23 µS/cm	0.17 mg/L	-35.2 mV	6.32 ft	150.00 ml/min
11/4/2020 11:36 AM	36:00	5.89 pH	61.80 °F	748.38 µS/cm	0.18 mg/L	-117.3 mV	6.32 ft	150.00 ml/min

11/4/2020 11:39 AM	39:00	5.96 pH	61.88 °F	832.60 µS/cm	0.25 mg/L	-168.1 mV	6.32 ft	150.00 ml/min
11/4/2020 11:42 AM	42:00	5.99 pH	62.02 °F	712.30 µS/cm	0.34 mg/L	-162.7 mV	6.32 ft	150.00 ml/min
11/4/2020 11:45 AM	45:00	6.03 pH	62.05 °F	944.36 µS/cm	0.35 mg/L	-156.5 mV	6.32 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-525	Sample taken at 11:50, final DTW 8.12, final RDO 0.35, purged 45 min and RDO, specific conductivity, and ORP did not stabilize. Ferrous iron 7.0

Low-Flow Test Report:

Test Date / Time: 11/4/2020 11:30:08 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-532 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.7 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.95 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Overcast, 55 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 11:30 AM	00:00	6.39 pH	61.11 °F	166.08 µS/cm	4.44 mg/L	100.7 mV	6.70 ft	150.00 ml/min
11/4/2020 11:33 AM	03:00	6.19 pH	60.09 °F	156.58 µS/cm	3.54 mg/L	138.6 mV	6.70 ft	150.00 ml/min
11/4/2020 11:36 AM	06:00	6.18 pH	59.84 °F	158.27 µS/cm	3.50 mg/L	153.4 mV	6.70 ft	150.00 ml/min
11/4/2020 11:39 AM	09:00	6.16 pH	59.80 °F	165.79 µS/cm	3.37 mg/L	161.3 mV	6.70 ft	150.00 ml/min
11/4/2020 11:42 AM	12:00	6.10 pH	59.84 °F	177.21 µS/cm	2.84 mg/L	169.7 mV	6.70 ft	150.00 ml/min
11/4/2020 11:45 AM	15:00	6.05 pH	59.93 °F	189.95 µS/cm	2.37 mg/L	176.5 mV	6.70 ft	150.00 ml/min
11/4/2020 11:48 AM	18:00	6.00 pH	60.01 °F	199.26 µS/cm	2.06 mg/L	182.4 mV	6.70 ft	150.00 ml/min
11/4/2020 11:51 AM	21:00	5.92 pH	60.22 °F	223.01 µS/cm	1.34 mg/L	181.7 mV	6.70 ft	150.00 ml/min
11/4/2020 11:54 AM	24:00	5.94 pH	60.40 °F	206.35 µS/cm	1.63 mg/L	178.6 mV	6.70 ft	150.00 ml/min
11/4/2020 11:57 AM	27:00	5.94 pH	60.48 °F	205.47 µS/cm	1.65 mg/L	176.0 mV	6.70 ft	150.00 ml/min
11/4/2020 12:00 PM	30:00	6.00 pH	60.51 °F	182.65 µS/cm	2.09 mg/L	172.7 mV	6.70 ft	150.00 ml/min
11/4/2020 12:03 PM	33:00	5.99 pH	60.50 °F	179.67 µS/cm	2.04 mg/L	172.3 mV	6.70 ft	150.00 ml/min

11/4/2020 12:06 PM	36:00	5.98 pH	60.56 °F	186.64 µS/cm	1.86 mg/L	172.7 mV	6.70 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-532	Sample Time: 1215 Final DTW: 8.75 ft btoc Final RDO: 1.86 mg/L Ferrous Iron: 0.05 mg/L

Low-Flow Test Report:

Test Date / Time: 11/4/2020 11:36:43 AM

Project: Edmonds Terminal 4Q20

Operator Name: DSG

Location Name: MW-533 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.42 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 7 ft Estimated Total Volume Pumped: 2562.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 11:36 AM	00:00	7.17 pH	56.15 °F	40,797 µS/cm	7.33 mg/L	34.0 mV	4.42 ft	150.00 ml/min
11/4/2020 11:40 AM	03:31	7.21 pH	55.20 °F	41,277 µS/cm	7.32 mg/L	55.1 mV	4.42 ft	150.00 ml/min
11/4/2020 11:44 AM	08:05	7.22 pH	55.28 °F	41,273 µS/cm	7.26 mg/L	71.2 mV	4.42 ft	150.00 ml/min
11/4/2020 11:47 AM	11:05	7.23 pH	55.69 °F	40,965 µS/cm	7.30 mg/L	74.5 mV	4.42 ft	150.00 ml/min
11/4/2020 11:50 AM	14:05	7.23 pH	55.63 °F	40,979 µS/cm	7.29 mg/L	76.7 mV	4.42 ft	150.00 ml/min
11/4/2020 11:53 AM	17:05	7.23 pH	55.28 °F	40,956 µS/cm	7.28 mg/L	78.6 mV	4.42 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-533	Sample Time: 12:02 Final DTW: 4.52 ft btoc Final RDO: 7.28 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/4/2020 12:13:30 PM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-534 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 3.42 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.13 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 12:13 PM	00:00	6.65 pH	62.25 °F	10,761 µS/cm	0.36 mg/L	-59.7 mV	3.42 ft	150.00 ml/min
11/4/2020 12:16 PM	03:00	6.65 pH	61.84 °F	10,992 µS/cm	0.16 mg/L	-67.0 mV	3.42 ft	150.00 ml/min
11/4/2020 12:19 PM	06:00	6.66 pH	61.68 °F	11,600 µS/cm	0.19 mg/L	-74.5 mV	3.42 ft	150.00 ml/min
11/4/2020 12:22 PM	09:00	6.66 pH	61.75 °F	12,091 µS/cm	0.19 mg/L	-80.2 mV	3.42 ft	150.00 ml/min
11/4/2020 12:25 PM	12:00	6.67 pH	61.77 °F	11,784 µS/cm	0.22 mg/L	-85.4 mV	3.42 ft	150.00 ml/min
11/4/2020 12:28 PM	15:00	6.67 pH	61.89 °F	12,655 µS/cm	0.21 mg/L	-93.1 mV	3.42 ft	150.00 ml/min
11/4/2020 12:31 PM	18:00	6.67 pH	61.96 °F	12,556 µS/cm	0.20 mg/L	-93.8 mV	3.42 ft	150.00 ml/min
11/4/2020 12:34 PM	21:00	6.68 pH	61.99 °F	12,825 µS/cm	0.22 mg/L	-99.7 mV	3.42 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-534	Sample time: 1240 Final DTW: 3.55 Final RDO:0.22 Ferrous iron: 6.5
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Low-Flow Test Report:

Test Date / Time: 11/4/2020 12:45:29 PM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-505 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 4.77 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6305 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.08 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy and 55F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 12:45 PM	00:00	6.65 pH	62.40 °F	862.53 µS/cm	1.46 mg/L	4.3 mV	4.77 ft	150.00 ml/min
11/4/2020 12:48 PM	03:00	6.64 pH	62.01 °F	894.46 µS/cm	0.56 mg/L	-9.0 mV	4.77 ft	150.00 ml/min
11/4/2020 12:51 PM	06:01	6.63 pH	61.80 °F	1,431.6 µS/cm	0.31 mg/L	-27.1 mV	4.77 ft	150.00 ml/min
11/4/2020 12:54 PM	09:01	6.62 pH	61.76 °F	2,268.5 µS/cm	0.26 mg/L	-45.0 mV	4.77 ft	150.00 ml/min
11/4/2020 12:57 PM	12:01	6.61 pH	61.72 °F	3,221.7 µS/cm	0.20 mg/L	-60.6 mV	4.77 ft	150.00 ml/min
11/4/2020 1:00 PM	15:01	6.62 pH	61.71 °F	3,759.8 µS/cm	0.16 mg/L	-79.1 mV	4.77 ft	150.00 ml/min
11/4/2020 1:03 PM	18:01	6.63 pH	61.74 °F	4,745.2 µS/cm	0.20 mg/L	-98.3 mV	4.77 ft	150.00 ml/min
11/4/2020 1:06 PM	21:01	6.62 pH	61.73 °F	5,921.6 µS/cm	0.16 mg/L	-108.7 mV	4.77 ft	150.00 ml/min
11/4/2020 1:09 PM	24:01	6.63 pH	61.68 °F	6,534.4 µS/cm	0.13 mg/L	-120.0 mV	4.77 ft	150.00 ml/min
11/4/2020 1:12 PM	27:01	6.64 pH	61.76 °F	6,808.1 µS/cm	0.17 mg/L	-140.2 mV	4.77 ft	150.00 ml/min
11/4/2020 1:15 PM	30:01	6.64 pH	61.68 °F	7,655.7 µS/cm	0.19 mg/L	-158.5 mV	4.77 ft	150.00 ml/min
11/4/2020 1:18 PM	33:01	6.65 pH	61.76 °F	8,376.4 µS/cm	0.12 mg/L	-171.9 mV	4.77 ft	150.00 ml/min
11/4/2020 1:21 PM	36:02	6.65 pH	61.72 °F	8,516.3 µS/cm	0.13 mg/L	-183.8 mV	4.77 ft	150.00 ml/min

11/4/2020 1:24 PM	39:02	6.66 pH	61.71 °F	8,766.9 µS/cm	0.17 mg/L	-189.6 mV	4.77 ft	150.00 ml/min
11/4/2020 1:27 PM	42:02	6.67 pH	61.73 °F	9,281.7 µS/cm	0.13 mg/L	-187.8 mV	4.77 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-505	Sample taken at 13:30, final DTW 4.85, final RDO 0.13, did not stabilize after 42 min (ORP and RDO), ferrous iron 4.5

Low-Flow Test Report:

Test Date / Time: 11/4/2020 1:04:16 PM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-513 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.44 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 8.5 ft Estimated Total Volume Pumped: 5850 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Overcast, 45 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 1:04 PM	00:00	6.45 pH	63.76 °F	17,775 µS/cm	1.58 mg/L	18.8 mV	4.44 ft	150.00 ml/min
11/4/2020 1:07 PM	03:00	6.55 pH	63.58 °F	17,906 µS/cm	0.88 mg/L	-3.0 mV	4.44 ft	150.00 ml/min
11/4/2020 1:10 PM	06:00	6.57 pH	62.90 °F	17,896 µS/cm	0.87 mg/L	-9.3 mV	4.44 ft	150.00 ml/min
11/4/2020 1:13 PM	09:00	6.59 pH	62.03 °F	18,100 µS/cm	0.47 mg/L	-17.3 mV	4.44 ft	150.00 ml/min
11/4/2020 1:16 PM	12:00	6.60 pH	61.80 °F	18,182 µS/cm	0.32 mg/L	-25.4 mV	4.44 ft	150.00 ml/min
11/4/2020 1:19 PM	15:00	6.60 pH	61.71 °F	18,296 µS/cm	0.25 mg/L	-28.1 mV	4.44 ft	150.00 ml/min
11/4/2020 1:22 PM	18:00	6.60 pH	61.67 °F	18,431 µS/cm	0.20 mg/L	-31.5 mV	4.44 ft	150.00 ml/min
11/4/2020 1:25 PM	21:00	6.61 pH	61.55 °F	18,515 µS/cm	0.17 mg/L	-32.0 mV	4.44 ft	150.00 ml/min
11/4/2020 1:28 PM	24:00	6.61 pH	61.49 °F	18,485 µS/cm	0.16 mg/L	-33.7 mV	4.44 ft	150.00 ml/min
11/4/2020 1:31 PM	27:00	6.63 pH	61.42 °F	17,621 µS/cm	0.18 mg/L	-35.4 mV	4.44 ft	150.00 ml/min
11/4/2020 1:34 PM	30:00	6.64 pH	61.38 °F	16,635 µS/cm	0.23 mg/L	-34.8 mV	4.44 ft	150.00 ml/min
11/4/2020 1:37 PM	33:00	6.65 pH	61.34 °F	16,097 µS/cm	0.26 mg/L	-34.3 mV	4.44 ft	150.00 ml/min

11/4/2020 1:40 PM	36:00	6.65 pH	61.32 °F	16,126 µS/cm	0.29 mg/L	-32.7 mV	4.44 ft	150.00 ml/min
11/4/2020 1:43 PM	39:00	6.65 pH	61.37 °F	16,112 µS/cm	0.31 mg/L	-32.0 mV	4.44 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-513	Sample Time: 1400 Final DTW: 4.43 ft btoc Final RDO: 0.31 mg/L Ferrous Iron: 5.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/5/2020 9:08:15 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-504 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.63 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5862.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy and 50F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 9:08 AM	00:00	6.85 pH	59.30 °F	15,229 µS/cm	3.73 mg/L	2.4 mV	6.63 ft	150.00 ml/min
11/5/2020 9:11 AM	03:00	6.75 pH	59.77 °F	15,926 µS/cm	0.49 mg/L	-51.3 mV	6.63 ft	150.00 ml/min
11/5/2020 9:14 AM	06:00	6.76 pH	59.76 °F	15,472 µS/cm	0.32 mg/L	-62.6 mV	6.63 ft	150.00 ml/min
11/5/2020 9:17 AM	09:00	6.92 pH	59.82 °F	8,611.3 µS/cm	1.73 mg/L	-24.0 mV	6.63 ft	150.00 ml/min
11/5/2020 9:20 AM	12:01	6.96 pH	59.91 °F	6,196.7 µS/cm	2.74 mg/L	-6.4 mV	6.63 ft	150.00 ml/min
11/5/2020 9:23 AM	15:01	6.97 pH	60.21 °F	5,662.0 µS/cm	2.75 mg/L	-1.8 mV	6.63 ft	150.00 ml/min
11/5/2020 9:26 AM	18:02	6.96 pH	60.08 °F	5,579.8 µS/cm	2.43 mg/L	-0.6 mV	6.63 ft	150.00 ml/min
11/5/2020 9:29 AM	21:03	6.96 pH	60.08 °F	5,548.1 µS/cm	2.24 mg/L	-2.0 mV	6.63 ft	150.00 ml/min
11/5/2020 9:32 AM	24:03	6.95 pH	60.11 °F	5,553.0 µS/cm	2.13 mg/L	-1.3 mV	6.63 ft	150.00 ml/min
11/5/2020 9:35 AM	27:04	6.95 pH	60.17 °F	5,573.0 µS/cm	1.85 mg/L	-0.4 mV	6.63 ft	150.00 ml/min
11/5/2020 9:38 AM	30:04	6.94 pH	60.20 °F	5,850.2 µS/cm	1.76 mg/L	0.0 mV	6.63 ft	150.00 ml/min
11/5/2020 9:41 AM	33:04	6.93 pH	60.12 °F	5,956.8 µS/cm	1.71 mg/L	-0.5 mV	6.63 ft	150.00 ml/min
11/5/2020 9:44 AM	36:05	6.92 pH	60.07 °F	6,058.7 µS/cm	1.50 mg/L	0.7 mV	6.63 ft	150.00 ml/min

11/5/2020 9:47 AM	39:05	6.91 pH	60.22 °F	6,247.1 µS/cm	1.38 mg/L	1.5 mV	6.63 ft	150.00 ml/min
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Samples

Sample ID:	Description:
MW-504	Sample taken at 0955, final DTW 7.66, final RDO 1.38, ferrous iron 2.0, ORP did not stabilize

Low-Flow Test Report:

Test Date / Time: 11/5/2020 9:17:05 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-507 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.85 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3137.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.23 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 9:17 AM	00:00	6.99 pH	59.35 °F	888.32 µS/cm	0.46 mg/L	11.6 mV	6.85 ft	150.00 ml/min
11/5/2020 9:20 AM	03:00	6.98 pH	59.62 °F	843.03 µS/cm	0.22 mg/L	-4.6 mV	6.85 ft	150.00 ml/min
11/5/2020 9:23 AM	05:55	6.96 pH	59.94 °F	835.51 µS/cm	0.16 mg/L	2.0 mV	6.85 ft	150.00 ml/min
11/5/2020 9:26 AM	08:55	6.96 pH	60.03 °F	815.35 µS/cm	0.15 mg/L	-0.9 mV	6.85 ft	150.00 ml/min
11/5/2020 9:29 AM	11:55	6.95 pH	60.14 °F	928.52 µS/cm	0.14 mg/L	0.2 mV	6.85 ft	150.00 ml/min
11/5/2020 9:32 AM	14:55	6.94 pH	60.21 °F	792.96 µS/cm	0.13 mg/L	5.4 mV	6.85 ft	150.00 ml/min
11/5/2020 9:35 AM	17:55	6.94 pH	60.33 °F	789.91 µS/cm	0.12 mg/L	10.0 mV	6.85 ft	150.00 ml/min
11/5/2020 9:38 AM	20:55	6.94 pH	60.40 °F	776.92 µS/cm	0.14 mg/L	10.8 mV	6.85 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-507	Sample time: 950 Final DTW: 7.08 Final RDO:0.14 Ferrous iron: 0
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Low-Flow Test Report:

Test Date / Time: 11/5/2020 10:17:25 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-514 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.71 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 4050 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Overcast, 50 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 10:17 AM	00:00	6.39 pH	58.88 °F	7,590.9 µS/cm	1.22 mg/L	76.7 mV	4.71 ft	150.00 ml/min
11/5/2020 10:20 AM	03:00	6.44 pH	59.24 °F	5,979.7 µS/cm	0.25 mg/L	51.7 mV	4.71 ft	150.00 ml/min
11/5/2020 10:23 AM	06:00	6.46 pH	59.47 °F	5,396.4 µS/cm	0.17 mg/L	40.4 mV	4.71 ft	150.00 ml/min
11/5/2020 10:26 AM	09:00	6.46 pH	59.54 °F	5,133.2 µS/cm	0.16 mg/L	34.6 mV	4.71 ft	150.00 ml/min
11/5/2020 10:29 AM	12:00	6.47 pH	59.52 °F	4,921.0 µS/cm	0.14 mg/L	31.4 mV	4.71 ft	150.00 ml/min
11/5/2020 10:32 AM	15:00	6.47 pH	59.60 °F	4,782.8 µS/cm	0.16 mg/L	29.1 mV	4.71 ft	150.00 ml/min
11/5/2020 10:35 AM	18:00	6.47 pH	59.63 °F	4,756.6 µS/cm	0.20 mg/L	27.1 mV	4.71 ft	150.00 ml/min
11/5/2020 10:38 AM	21:00	6.48 pH	59.49 °F	4,757.7 µS/cm	0.15 mg/L	26.3 mV	4.71 ft	150.00 ml/min
11/5/2020 10:41 AM	24:00	6.48 pH	59.58 °F	4,814.4 µS/cm	0.16 mg/L	25.1 mV	4.71 ft	150.00 ml/min
11/5/2020 10:44 AM	27:00	6.48 pH	59.64 °F	4,918.1 µS/cm	0.16 mg/L	23.7 mV	4.71 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-514	Sample Time: 1050 Final DTW: 4.72 ft btoc Final RDO: Ferrous Iron: 3.0 mg/L

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/5/2020 10:29:34 AM

Project: Edmonds Terminal 4Q20

Operator Name: DSG

Location Name: MW-518 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 2.5 ft Total Depth: 12.5 ft Initial Depth to Water: 8.16 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 7580 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 10:29 AM	00:00	6.88 pH	61.42 °F	3,279.5 µS/cm	0.67 mg/L	-55.5 mV	8.16 ft	150.00 ml/min
11/5/2020 10:32 AM	03:00	6.89 pH	61.69 °F	2,625.6 µS/cm	0.26 mg/L	-96.1 mV	8.16 ft	150.00 ml/min
11/5/2020 10:35 AM	06:00	6.86 pH	61.83 °F	2,577.8 µS/cm	0.19 mg/L	-110.4 mV	8.16 ft	150.00 ml/min
11/5/2020 10:40 AM	10:43	6.84 pH	61.66 °F	2,610.9 µS/cm	0.17 mg/L	-118.1 mV	8.16 ft	150.00 ml/min
11/5/2020 10:43 AM	13:36	6.83 pH	61.50 °F	2,636.4 µS/cm	0.20 mg/L	-122.5 mV	8.16 ft	150.00 ml/min
11/5/2020 10:46 AM	16:36	6.83 pH	61.15 °F	2,559.8 µS/cm	0.12 mg/L	-118.7 mV	8.16 ft	150.00 ml/min
11/5/2020 10:47 AM	17:42	6.82 pH	61.27 °F	2,626.6 µS/cm	0.14 mg/L	-118.4 mV	8.16 ft	150.00 ml/min
11/5/2020 10:49 AM	19:44	6.82 pH	61.17 °F	2,643.9 µS/cm	0.13 mg/L	-121.8 mV	8.16 ft	150.00 ml/min
11/5/2020 10:51 AM	21:40	6.81 pH	61.32 °F	2,645.3 µS/cm	0.12 mg/L	-121.1 mV	8.16 ft	150.00 ml/min
11/5/2020 10:52 AM	22:58	6.81 pH	61.31 °F	2,648.9 µS/cm	0.14 mg/L	-124.5 mV	8.16 ft	150.00 ml/min
11/5/2020 10:56 AM	26:32	6.81 pH	61.46 °F	2,657.0 µS/cm	0.11 mg/L	-122.7 mV	8.16 ft	150.00 ml/min
11/5/2020 10:59 AM	29:32	6.81 pH	61.39 °F	2,653.5 µS/cm	0.10 mg/L	-121.1 mV	8.16 ft	150.00 ml/min

11/5/2020 11:02 AM	32:32	6.80 pH	61.18 °F	2,644.9 µS/cm	0.13 mg/L	-118.4 mV	8.16 ft	150.00 ml/min
11/5/2020 11:05 AM	35:32	6.80 pH	60.75 °F	2,637.9 µS/cm	0.14 mg/L	-116.7 mV	8.16 ft	150.00 ml/min
11/5/2020 11:08 AM	38:32	6.79 pH	60.63 °F	2,586.9 µS/cm	0.16 mg/L	-113.9 mV	8.16 ft	150.00 ml/min
11/5/2020 11:11 AM	41:32	6.79 pH	61.24 °F	2,582.3 µS/cm	0.12 mg/L	-115.4 mV	8.16 ft	150.00 ml/min
11/5/2020 11:14 AM	44:32	6.79 pH	61.17 °F	2,613.0 µS/cm	0.11 mg/L	-115.8 mV	8.16 ft	150.00 ml/min
11/5/2020 11:17 AM	47:32	6.79 pH	61.18 °F	2,545.0 µS/cm	0.12 mg/L	-115.5 mV	8.16 ft	150.00 ml/min
11/5/2020 11:20 AM	50:32	6.79 pH	60.85 °F	2,562.8 µS/cm	0.14 mg/L	-113.0 mV	8.16 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-518	Sample Time: 11:26 Final DTW: 8.18 ft btoc Final RDO: 0.14 mg/L Ferrous Iron: 1.5 mg/L RDO did not stabilize
Dup-4	

Low-Flow Test Report:

Test Date / Time: 11/5/2020 10:29:58 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-504 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.03 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6307.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.03 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy and 50F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 10:29 AM	00:00	7.07 pH	60.68 °F	1,302.4 µS/cm	4.17 mg/L	77.1 mV	7.03 ft	150.00 ml/min
11/5/2020 10:32 AM	03:00	6.89 pH	60.67 °F	1,254.6 µS/cm	0.70 mg/L	46.3 mV	7.03 ft	150.00 ml/min
11/5/2020 10:35 AM	06:00	6.88 pH	60.58 °F	1,210.6 µS/cm	0.35 mg/L	44.4 mV	7.03 ft	150.00 ml/min
11/5/2020 10:38 AM	09:00	6.87 pH	60.45 °F	1,179.0 µS/cm	0.29 mg/L	47.4 mV	7.03 ft	150.00 ml/min
11/5/2020 10:41 AM	12:01	6.86 pH	60.42 °F	1,175.3 µS/cm	0.41 mg/L	40.3 mV	7.03 ft	150.00 ml/min
11/5/2020 10:44 AM	15:01	6.86 pH	60.20 °F	1,154.5 µS/cm	0.35 mg/L	36.8 mV	7.03 ft	150.00 ml/min
11/5/2020 10:47 AM	18:01	6.86 pH	60.20 °F	1,175.0 µS/cm	0.24 mg/L	40.1 mV	7.03 ft	150.00 ml/min
11/5/2020 10:50 AM	21:01	6.86 pH	60.20 °F	1,145.1 µS/cm	0.34 mg/L	37.4 mV	7.03 ft	150.00 ml/min
11/5/2020 10:53 AM	24:01	6.86 pH	60.13 °F	1,125.6 µS/cm	0.33 mg/L	35.0 mV	7.03 ft	150.00 ml/min
11/5/2020 10:57 AM	27:02	6.86 pH	60.06 °F	1,069.8 µS/cm	0.46 mg/L	44.2 mV	7.03 ft	150.00 ml/min
11/5/2020 11:00 AM	30:02	6.87 pH	59.87 °F	989.62 µS/cm	1.00 mg/L	56.9 mV	7.03 ft	150.00 ml/min
11/5/2020 11:03 AM	33:02	6.90 pH	59.58 °F	908.31 µS/cm	1.96 mg/L	67.1 mV	7.03 ft	150.00 ml/min
11/5/2020 11:06 AM	36:02	6.90 pH	59.49 °F	913.50 µS/cm	2.24 mg/L	77.5 mV	7.03 ft	150.00 ml/min

11/5/2020 11:09 AM	39:02	6.91 pH	59.42 °F	873.91 µS/cm	2.42 mg/L	81.7 mV	7.03 ft	150.00 ml/min
11/5/2020 11:12 AM	42:03	6.91 pH	59.49 °F	880.89 µS/cm	2.28 mg/L	78.2 mV	7.03 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-519	Sample taken at 11:15, final DTW 7.00, final RDO 2.28, ferrous iron 0.0

Low-Flow Test Report:

Test Date / Time: 11/5/2020 10:33:03 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-506 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6750 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.09 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %	
11/5/2020 10:33 AM	00:00	6.64 pH	60.97 °F	9,318.0 µS/cm	0.28 mg/L	-104.2 mV	150.00 ml/min
11/5/2020 10:36 AM	03:00	6.70 pH	60.56 °F	8,308.4 µS/cm	0.21 mg/L	-122.4 mV	150.00 ml/min
11/5/2020 10:39 AM	06:00	6.70 pH	60.49 °F	8,133.0 µS/cm	0.27 mg/L	-131.3 mV	150.00 ml/min
11/5/2020 10:42 AM	09:00	6.72 pH	59.96 °F	7,287.3 µS/cm	0.24 mg/L	-137.7 mV	150.00 ml/min
11/5/2020 10:45 AM	12:00	6.72 pH	59.71 °F	7,106.9 µS/cm	0.17 mg/L	-142.4 mV	150.00 ml/min
11/5/2020 10:48 AM	15:00	6.73 pH	59.46 °F	6,566.2 µS/cm	0.13 mg/L	-148.3 mV	150.00 ml/min
11/5/2020 10:51 AM	18:00	6.72 pH	59.40 °F	6,299.0 µS/cm	0.17 mg/L	-154.6 mV	150.00 ml/min
11/5/2020 10:54 AM	21:00	6.71 pH	59.29 °F	6,381.6 µS/cm	0.19 mg/L	-160.2 mV	150.00 ml/min
11/5/2020 10:57 AM	24:00	6.71 pH	59.33 °F	6,838.3 µS/cm	0.40 mg/L	-157.9 mV	150.00 ml/min
11/5/2020 11:00 AM	27:00	6.70 pH	59.50 °F	6,210.3 µS/cm	0.17 mg/L	-179.6 mV	150.00 ml/min
11/5/2020 11:03 AM	30:00	6.70 pH	59.43 °F	6,114.4 µS/cm	0.18 mg/L	-190.6 mV	150.00 ml/min
11/5/2020 11:06 AM	33:00	6.71 pH	59.26 °F	6,246.6 µS/cm	0.12 mg/L	-194.7 mV	150.00 ml/min

11/5/2020 11:09 AM	36:00	6.71 pH	59.34 °F	6,255.4 µS/cm	0.14 mg/L	-198.2 mV	150.00 ml/min
11/5/2020 11:12 AM	39:00	6.71 pH	59.37 °F	6,101.6 µS/cm	0.12 mg/L	-200.8 mV	150.00 ml/min
11/5/2020 11:15 AM	42:00	6.71 pH	59.22 °F	6,210.5 µS/cm	0.16 mg/L	-200.5 mV	150.00 ml/min
11/5/2020 11:18 AM	45:00	6.72 pH	59.18 °F	6,190.4 µS/cm	0.13 mg/L	-203.6 mV	150.00 ml/min

Samples

Sample ID:	Description:
MW-506	<p>Sample time: 1120</p> <p>Final DTW: 7.76</p> <p>Final RDO:see report</p> <p>Ferrous iron: 5.0</p> <p>RDO Did not stabilize after 45 minutes</p>

Low-Flow Test Report:

Test Date / Time: 11/5/2020 11:50:31 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-515 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.9 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 3420 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Heavy rain, 50 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 11:50 AM	00:00	6.63 pH	59.57 °F	19,449 µS/cm	2.34 mg/L	72.9 mV	4.90 ft	150.00 ml/min
11/5/2020 11:53 AM	03:00	6.67 pH	59.93 °F	18,698 µS/cm	0.24 mg/L	68.6 mV	4.90 ft	150.00 ml/min
11/5/2020 11:56 AM	06:00	6.68 pH	59.94 °F	17,771 µS/cm	0.17 mg/L	70.3 mV	4.90 ft	150.00 ml/min
11/5/2020 11:59 AM	09:00	6.68 pH	60.11 °F	17,306 µS/cm	0.15 mg/L	71.8 mV	4.90 ft	150.00 ml/min
11/5/2020 12:02 PM	12:00	6.69 pH	60.13 °F	17,127 µS/cm	0.14 mg/L	74.1 mV	4.90 ft	150.00 ml/min
11/5/2020 12:05 PM	15:00	6.69 pH	60.03 °F	17,031 µS/cm	0.12 mg/L	75.6 mV	4.90 ft	150.00 ml/min
11/5/2020 12:08 PM	18:00	6.69 pH	60.02 °F	16,956 µS/cm	0.12 mg/L	76.8 mV	4.90 ft	150.00 ml/min
11/5/2020 12:11 PM	21:00	6.70 pH	59.97 °F	16,902 µS/cm	0.11 mg/L	77.2 mV	4.90 ft	150.00 ml/min
11/5/2020 12:13 PM	22:48	6.70 pH	59.92 °F	16,909 µS/cm	0.11 mg/L	77.7 mV	4.90 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-515	Sample Time: 1230 Final DTW: 4.90 ft btoc Final RDO: 0.11 mg/L Ferrous Iron: 0.5 mg/L
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/5/2020 11:59:56 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-520 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.62 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Raining and 50F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 11:59 AM	00:00	6.96 pH	58.50 °F	939.84 µS/cm	8.71 mg/L	136.7 mV	7.62 ft	150.00 ml/min
11/5/2020 12:02 PM	03:00	6.90 pH	58.45 °F	943.88 µS/cm	7.91 mg/L	152.7 mV	7.62 ft	150.00 ml/min
11/5/2020 12:05 PM	06:00	6.89 pH	58.59 °F	944.60 µS/cm	7.85 mg/L	159.4 mV	7.62 ft	150.00 ml/min
11/5/2020 12:08 PM	09:00	6.88 pH	58.60 °F	944.87 µS/cm	7.81 mg/L	158.8 mV	7.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
ME-520	Sample taken at 12:20, final DTW 7.62, final RDO 7.81, ferrous iron 0.0

Low-Flow Test Report:

Test Date / Time: 11/5/2020 12:13:07 PM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-509 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 6 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %	
11/5/2020 12:13 PM	00:00	6.88 pH	60.17 °F	36,286 µS/cm	3.39 mg/L	35.3 mV	150.00 ml/min
11/5/2020 12:16 PM	03:00	6.89 pH	59.90 °F	35,442 µS/cm	2.03 mg/L	48.3 mV	150.00 ml/min
11/5/2020 12:19 PM	06:00	6.90 pH	59.37 °F	33,020 µS/cm	2.00 mg/L	66.1 mV	150.00 ml/min
11/5/2020 12:22 PM	09:00	6.89 pH	59.03 °F	31,779 µS/cm	1.80 mg/L	71.4 mV	150.00 ml/min
11/5/2020 12:25 PM	12:00	6.88 pH	59.10 °F	31,424 µS/cm	1.72 mg/L	70.4 mV	150.00 ml/min
11/5/2020 12:28 PM	15:00	6.88 pH	58.95 °F	31,336 µS/cm	1.72 mg/L	69.2 mV	150.00 ml/min

Samples

Sample ID:	Description:
MW-509	Sample time: 1240 Final DTW: 3.52 Final RDO:1.72 Ferrous iron: 0

Low-Flow Test Report:

Test Date / Time: 11/5/2020 12:53:58 PM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-516 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.54 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/5/2020 12:53 PM	00:00	6.68 pH	58.69 °F	10,386 µS/cm	2.29 mg/L	87.0 mV	5.54 ft	150.00 ml/min
11/5/2020 12:56 PM	03:00	6.61 pH	58.99 °F	10,242 µS/cm	0.40 mg/L	91.4 mV	5.54 ft	150.00 ml/min
11/5/2020 12:59 PM	06:00	6.62 pH	59.41 °F	8,955.4 µS/cm	0.23 mg/L	90.3 mV	5.54 ft	150.00 ml/min
11/5/2020 1:02 PM	09:00	6.62 pH	59.01 °F	8,772.5 µS/cm	0.23 mg/L	91.9 mV	5.54 ft	150.00 ml/min
11/5/2020 1:05 PM	12:00	6.61 pH	58.76 °F	8,823.9 µS/cm	0.25 mg/L	93.5 mV	5.54 ft	150.00 ml/min
11/5/2020 1:08 PM	15:00	6.62 pH	59.44 °F	8,905.8 µS/cm	0.17 mg/L	95.6 mV	5.54 ft	150.00 ml/min
11/5/2020 1:11 PM	18:00	6.64 pH	59.65 °F	7,536.3 µS/cm	0.14 mg/L	95.7 mV	5.54 ft	150.00 ml/min
11/5/2020 1:14 PM	21:00	6.66 pH	59.71 °F	6,926.1 µS/cm	0.17 mg/L	96.0 mV	5.54 ft	150.00 ml/min
11/5/2020 1:17 PM	24:00	6.65 pH	59.54 °F	7,349.8 µS/cm	0.23 mg/L	98.2 mV	5.54 ft	150.00 ml/min
11/5/2020 1:20 PM	27:00	6.65 pH	59.66 °F	7,165.9 µS/cm	0.23 mg/L	98.0 mV	5.54 ft	150.00 ml/min
11/5/2020 1:23 PM	30:00	6.66 pH	59.72 °F	7,015.4 µS/cm	0.24 mg/L	97.3 mV	5.54 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-516

Sample Time: 1330
Final DTW: 4.54 ft btoc
Final RDO: 0.24 mg/L
Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/6/2020 9:11:34 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-521 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.53 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy, very windy, 50 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 9:11 AM	00:00	7.23 pH	55.98 °F	309.37 µS/cm	8.18 mg/L	155.2 mV	6.53 ft	150.00 ml/min
11/6/2020 9:14 AM	03:00	6.93 pH	55.90 °F	322.73 µS/cm	6.70 mg/L	157.0 mV	6.53 ft	150.00 ml/min
11/6/2020 9:17 AM	06:00	6.87 pH	56.07 °F	350.44 µS/cm	5.88 mg/L	159.0 mV	6.53 ft	150.00 ml/min
11/6/2020 9:20 AM	09:00	6.83 pH	56.14 °F	419.50 µS/cm	5.24 mg/L	165.1 mV	6.53 ft	150.00 ml/min
11/6/2020 9:23 AM	12:00	6.81 pH	56.15 °F	425.52 µS/cm	5.06 mg/L	164.5 mV	6.53 ft	150.00 ml/min
11/6/2020 9:26 AM	15:00	6.78 pH	56.44 °F	506.86 µS/cm	4.46 mg/L	161.2 mV	6.53 ft	150.00 ml/min
11/6/2020 9:29 AM	18:00	6.75 pH	55.96 °F	509.66 µS/cm	4.25 mg/L	162.1 mV	6.53 ft	150.00 ml/min
11/6/2020 9:32 AM	21:00	6.76 pH	56.04 °F	549.42 µS/cm	4.01 mg/L	160.8 mV	6.53 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-521	Sample taken at 09:45, final DTW 6.53, final RDO 4.01, ferrous iron 0.0

Low-Flow Test Report:

Test Date / Time: 11/6/2020 9:29:21 AM

Project: Edmonds Terminal 4Q20

Operator Name: DSG

<p>Location Name: MW-143 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.6 ft Top of Screen: 3.5 ft Total Depth: 14.1 ft Initial Depth to Water: 5.24 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 7527.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 2.76 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586</p>
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 9:29 AM	00:00	6.12 pH	55.38 °F	371.87 µS/cm	1.00 mg/L	-22.0 mV	5.24 ft	150.00 ml/min
11/6/2020 9:30 AM	01:25	6.06 pH	55.64 °F	319.93 µS/cm	0.29 mg/L	-45.8 mV	5.24 ft	150.00 ml/min
11/6/2020 9:33 AM	04:25	6.06 pH	55.86 °F	312.61 µS/cm	0.23 mg/L	-57.7 mV	5.24 ft	150.00 ml/min
11/6/2020 9:36 AM	07:25	6.05 pH	55.91 °F	317.73 µS/cm	0.24 mg/L	-62.1 mV	5.24 ft	150.00 ml/min
11/6/2020 9:39 AM	10:25	6.09 pH	56.12 °F	338.28 µS/cm	0.50 mg/L	-61.6 mV	5.24 ft	150.00 ml/min
11/6/2020 9:42 AM	13:25	6.14 pH	55.03 °F	319.03 µS/cm	1.98 mg/L	-55.5 mV	5.24 ft	150.00 ml/min
11/6/2020 9:45 AM	16:25	6.13 pH	55.37 °F	371.31 µS/cm	2.66 mg/L	-40.6 mV	5.24 ft	150.00 ml/min
11/6/2020 9:48 AM	19:25	6.12 pH	55.82 °F	388.53 µS/cm	1.85 mg/L	-37.9 mV	5.24 ft	150.00 ml/min
11/6/2020 9:52 AM	23:11	6.11 pH	56.11 °F	432.29 µS/cm	1.31 mg/L	-48.5 mV	5.24 ft	150.00 ml/min
11/6/2020 9:55 AM	26:11	6.15 pH	55.91 °F	151.68 µS/cm	4.32 mg/L	-50.5 mV	5.24 ft	150.00 ml/min
11/6/2020 9:58 AM	29:11	6.12 pH	55.44 °F	404.18 µS/cm	4.39 mg/L	-41.6 mV	5.24 ft	150.00 ml/min
11/6/2020 10:01 AM	32:11	6.10 pH	55.03 °F	390.41 µS/cm	5.05 mg/L	-49.2 mV	5.24 ft	150.00 ml/min

11/6/2020 10:04 AM	35:11	6.10 pH	54.31 °F	458.03 µS/cm	2.27 mg/L	-49.3 mV	5.24 ft	150.00 ml/min
11/6/2020 10:07 AM	38:11	6.10 pH	55.40 °F	443.14 µS/cm	0.28 mg/L	-54.7 mV	5.24 ft	150.00 ml/min
11/6/2020 10:10 AM	41:11	6.10 pH	55.59 °F	436.25 µS/cm	0.19 mg/L	-57.0 mV	5.24 ft	150.00 ml/min
11/6/2020 10:13 AM	44:11	6.10 pH	55.56 °F	426.64 µS/cm	0.16 mg/L	-58.3 mV	5.24 ft	150.00 ml/min
11/6/2020 10:16 AM	47:11	6.11 pH	55.54 °F	413.18 µS/cm	0.17 mg/L	-59.8 mV	5.24 ft	150.00 ml/min
11/6/2020 10:19 AM	50:11	6.10 pH	55.43 °F	411.76 µS/cm	0.18 mg/L	-60.3 mV	5.24 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-143	Sample Time: 10:30 Final DTW: 8.00 ft btoc Final RDO: 0.18 mg/L Ferrous Iron: 2.0 mg/L
MW-143MS	
MW-143MSD	

Low-Flow Test Report:

Test Date / Time: 11/6/2020 9:33:38 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-517 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.3 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Windy, 45 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 9:33 AM	00:00	6.58 pH	55.09 °F	13,067 µS/cm	2.27 mg/L	133.0 mV	5.30 ft	150.00 ml/min
11/6/2020 9:36 AM	03:00	6.56 pH	56.53 °F	10,676 µS/cm	1.05 mg/L	113.4 mV	5.30 ft	150.00 ml/min
11/6/2020 9:39 AM	06:00	6.59 pH	57.04 °F	8,894.1 µS/cm	0.90 mg/L	104.1 mV	5.30 ft	150.00 ml/min
11/6/2020 9:42 AM	09:00	6.61 pH	57.33 °F	7,801.5 µS/cm	0.98 mg/L	98.0 mV	5.30 ft	150.00 ml/min
11/6/2020 9:45 AM	12:00	6.62 pH	57.38 °F	7,325.9 µS/cm	1.17 mg/L	94.6 mV	5.30 ft	150.00 ml/min
11/6/2020 9:48 AM	15:00	6.63 pH	57.50 °F	7,100.6 µS/cm	1.35 mg/L	92.1 mV	5.30 ft	150.00 ml/min
11/6/2020 9:51 AM	18:00	6.64 pH	57.57 °F	7,044.5 µS/cm	1.50 mg/L	90.5 mV	5.30 ft	150.00 ml/min
11/6/2020 9:54 AM	21:00	6.64 pH	57.66 °F	6,947.6 µS/cm	1.60 mg/L	89.2 mV	5.30 ft	150.00 ml/min
11/6/2020 9:57 AM	24:00	6.64 pH	57.70 °F	6,956.5 µS/cm	1.70 mg/L	88.5 mV	5.30 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-517

Sample Time: 1010
Final DTW: 6.32 mg/L
Final RDO: 1.70 mg/L
Ferrous Iron: 0.25 mg/L

Low-Flow Test Report:

Test Date / Time: 11/6/2020 9:38:08 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-8R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 8.17 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1517.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Windy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 9:38 AM	00:00	6.89 pH	56.64 °F	1,032.9 µS/cm	0.81 mg/L	82.8 mV	8.17 ft	150.00 ml/min
11/6/2020 9:42 AM	04:07	6.88 pH	56.98 °F	1,017.8 µS/cm	0.81 mg/L	86.0 mV	8.17 ft	150.00 ml/min
11/6/2020 9:45 AM	07:07	6.86 pH	57.13 °F	1,014.8 µS/cm	0.80 mg/L	91.6 mV	8.17 ft	150.00 ml/min
11/6/2020 9:48 AM	10:07	6.84 pH	57.24 °F	1,005.9 µS/cm	0.75 mg/L	81.3 mV	8.17 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-8R	Sample time: 1000 Final DTW: 8.17 Final RDO: 0.75 Ferrous iron: 0

Low-Flow Test Report:

Test Date / Time: 11/6/2020 10:18:13 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-522 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 8.11 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6300 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Cloudy and windy, 50 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 10:18 AM	00:00	6.68 pH	57.06 °F	951.96 µS/cm	1.72 mg/L	170.1 mV	8.11 ft	150.00 ml/min
11/6/2020 10:21 AM	03:00	6.70 pH	56.92 °F	948.12 µS/cm	0.40 mg/L	134.4 mV	8.11 ft	150.00 ml/min
11/6/2020 10:24 AM	06:00	6.70 pH	56.83 °F	955.37 µS/cm	0.41 mg/L	110.6 mV	8.11 ft	150.00 ml/min
11/6/2020 10:27 AM	09:00	6.70 pH	56.82 °F	954.44 µS/cm	0.45 mg/L	94.0 mV	8.11 ft	150.00 ml/min
11/6/2020 10:30 AM	12:00	6.70 pH	56.82 °F	953.98 µS/cm	0.23 mg/L	88.0 mV	8.11 ft	150.00 ml/min
11/6/2020 10:33 AM	15:00	6.70 pH	56.84 °F	953.47 µS/cm	0.21 mg/L	79.7 mV	8.11 ft	150.00 ml/min
11/6/2020 10:36 AM	18:00	6.70 pH	56.87 °F	952.91 µS/cm	0.30 mg/L	65.9 mV	8.11 ft	150.00 ml/min
11/6/2020 10:39 AM	21:00	6.70 pH	57.05 °F	952.58 µS/cm	0.21 mg/L	63.0 mV	8.11 ft	150.00 ml/min
11/6/2020 10:42 AM	24:00	6.70 pH	57.16 °F	953.54 µS/cm	0.21 mg/L	62.6 mV	8.11 ft	150.00 ml/min
11/6/2020 10:45 AM	27:00	6.70 pH	57.35 °F	953.65 µS/cm	0.31 mg/L	53.0 mV	8.11 ft	150.00 ml/min
11/6/2020 10:48 AM	30:00	6.70 pH	57.36 °F	953.93 µS/cm	0.29 mg/L	49.6 mV	8.11 ft	150.00 ml/min
11/6/2020 10:51 AM	33:00	6.69 pH	57.48 °F	953.72 µS/cm	0.18 mg/L	52.6 mV	8.11 ft	150.00 ml/min
11/6/2020 10:54 AM	36:00	6.69 pH	57.57 °F	953.33 µS/cm	0.23 mg/L	46.6 mV	8.11 ft	150.00 ml/min

11/6/2020 10:57 AM	39:00	6.70 pH	57.58 °F	952.96 µS/cm	0.23 mg/L	39.1 mV	8.11 ft	150.00 ml/min
11/6/2020 11:00 AM	42:00	6.70 pH	57.39 °F	951.98 µS/cm	0.15 mg/L	41.3 mV	8.11 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-522	Sample taken at 11:10, final DTW 8.21, final RDO 0.15, ferrous iron 0.0, did not stabilize

Low-Flow Test Report:

Test Date / Time: 11/6/2020 10:31:49 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-20R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4.5 ft Total Depth: 14.5 ft Initial Depth to Water: 6.2 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.12 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Windy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 10:31 AM	00:00	6.56 pH	56.70 °F	24,559 µS/cm	0.27 mg/L	-47.6 mV	6.20 ft	150.00 ml/min
11/6/2020 10:34 AM	03:00	6.60 pH	56.58 °F	25,353 µS/cm	0.25 mg/L	-133.0 mV	6.20 ft	150.00 ml/min
11/6/2020 10:37 AM	06:00	6.63 pH	56.57 °F	26,128 µS/cm	0.22 mg/L	-155.6 mV	6.20 ft	150.00 ml/min
11/6/2020 10:40 AM	09:00	6.64 pH	56.63 °F	26,692 µS/cm	0.21 mg/L	-159.7 mV	6.20 ft	150.00 ml/min
11/6/2020 10:43 AM	12:00	6.60 pH	56.57 °F	26,169 µS/cm	0.25 mg/L	-161.3 mV	6.20 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-20R	Sample time: 1055 Final DTW: 6.32 Final RDO: 0.25 Ferrous iron: 2.5

Low-Flow Test Report:

Test Date / Time: 11/6/2020 10:44:44 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-101 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.77 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 12 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.25 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:
Strong HCLO

Weather Conditions:
Windy, 45 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 10:44 AM	00:00	7.14 pH	56.59 °F	2,400.5 µS/cm	3.28 mg/L	-105.3 mV	8.77 ft	150.00 ml/min
11/6/2020 10:47 AM	03:00	7.23 pH	57.84 °F	2,430.7 µS/cm	0.75 mg/L	-153.1 mV	8.77 ft	150.00 ml/min
11/6/2020 10:50 AM	06:00	7.21 pH	58.23 °F	2,472.4 µS/cm	0.67 mg/L	-158.0 mV	8.77 ft	150.00 ml/min
11/6/2020 10:53 AM	09:00	7.15 pH	58.45 °F	2,538.1 µS/cm	0.66 mg/L	-153.3 mV	8.77 ft	150.00 ml/min
11/6/2020 10:56 AM	12:00	7.10 pH	58.57 °F	2,588.9 µS/cm	0.70 mg/L	-147.1 mV	8.77 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-101	Sample Time: 1115 Final DTW: 9.02 ft btoc Final RDO: 0.70 mg/L Ferrous Iron: 3.5 mg/L

Low-Flow Test Report:

Test Date / Time: 11/6/2020 11:42:48 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-126 Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 3.7 ft Total Depth: 14.2 ft Initial Depth to Water: 5.52 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 5850 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.66 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Windy, 45 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/6/2020 11:42 AM	00:00	7.02 pH	54.52 °F	445.56 µS/cm	5.10 mg/L	-29.6 mV	5.52 ft	150.00 ml/min
11/6/2020 11:45 AM	03:00	6.75 pH	54.23 °F	439.71 µS/cm	2.80 mg/L	21.8 mV	5.52 ft	150.00 ml/min
11/6/2020 11:48 AM	06:00	6.72 pH	54.12 °F	448.15 µS/cm	3.19 mg/L	43.9 mV	5.52 ft	150.00 ml/min
11/6/2020 11:51 AM	09:00	6.71 pH	54.08 °F	450.75 µS/cm	2.61 mg/L	56.9 mV	5.52 ft	150.00 ml/min
11/6/2020 11:54 AM	12:00	6.71 pH	54.07 °F	447.78 µS/cm	2.02 mg/L	65.1 mV	5.52 ft	150.00 ml/min
11/6/2020 11:57 AM	15:00	6.72 pH	54.08 °F	449.48 µS/cm	1.59 mg/L	70.8 mV	5.52 ft	150.00 ml/min
11/6/2020 12:00 PM	18:00	6.72 pH	54.02 °F	450.10 µS/cm	1.26 mg/L	75.5 mV	5.52 ft	150.00 ml/min
11/6/2020 12:03 PM	21:00	6.72 pH	54.10 °F	444.31 µS/cm	1.17 mg/L	79.3 mV	5.52 ft	150.00 ml/min
11/6/2020 12:06 PM	24:00	6.72 pH	54.04 °F	439.33 µS/cm	0.81 mg/L	82.4 mV	5.52 ft	150.00 ml/min
11/6/2020 12:09 PM	27:00	6.73 pH	54.05 °F	438.72 µS/cm	0.80 mg/L	85.1 mV	5.52 ft	150.00 ml/min
11/6/2020 12:12 PM	30:00	6.72 pH	54.05 °F	442.37 µS/cm	0.64 mg/L	87.7 mV	5.52 ft	150.00 ml/min
11/6/2020 12:15 PM	33:00	6.72 pH	54.07 °F	441.81 µS/cm	0.62 mg/L	89.8 mV	5.52 ft	150.00 ml/min

11/6/2020 12:18 PM	36:00	6.73 pH	54.13 °F	437.99 µS/cm	0.54 mg/L	91.3 mV	5.52 ft	150.00 ml/min
11/6/2020 12:21 PM	39:00	6.73 pH	54.15 °F	440.97 µS/cm	0.56 mg/L	93.1 mV	5.52 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-126	Sample Time: 1230 Final DTW: 7.18 ft btoc Final RDO: 0.56 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/3/2020 9:39:55 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-511 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 8.2 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 1457.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Rain, 50 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 9:39 AM	00:00	6.01 pH	54.47 °F	273.79 µS/cm	3.50 mg/L	200.6 mV	8.20 ft	150.00 ml/min
11/3/2020 9:42 AM	03:00	6.03 pH	54.28 °F	264.66 µS/cm	3.06 mg/L	204.6 mV	8.20 ft	150.00 ml/min
11/3/2020 9:46 AM	06:43	6.01 pH	54.14 °F	270.29 µS/cm	3.49 mg/L	209.8 mV	8.20 ft	150.00 ml/min
11/3/2020 9:49 AM	09:43	5.99 pH	54.41 °F	265.48 µS/cm	3.32 mg/L	210.1 mV	8.20 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-511	Sample Time: 0955 Final DTW: 8.20 Final RDO: 3.32 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/3/2020 9:41:54 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-502 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 5.5 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6587.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 5.78 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Rainy, 50deg F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 9:41 AM	00:00	7.05 pH	55.04 °F	0.07 µS/cm	10.56 mg/L	24.5 mV	5.50 ft	150.00 ml/min
11/3/2020 9:43 AM	01:54	6.82 pH	55.22 °F	0.07 µS/cm	10.09 mg/L	37.2 mV	5.50 ft	150.00 ml/min
11/3/2020 9:46 AM	04:54	6.31 pH	55.49 °F	0.07 µS/cm	9.62 mg/L	46.2 mV	5.50 ft	150.00 ml/min
11/3/2020 9:49 AM	07:54	6.26 pH	55.56 °F	0.07 µS/cm	9.34 mg/L	21.3 mV	5.50 ft	150.00 ml/min
11/3/2020 9:52 AM	10:54	6.28 pH	55.54 °F	0.07 µS/cm	9.14 mg/L	30.6 mV	5.50 ft	150.00 ml/min
11/3/2020 9:55 AM	13:54	6.22 pH	55.60 °F	0.07 µS/cm	8.97 mg/L	73.0 mV	5.50 ft	150.00 ml/min
11/3/2020 9:58 AM	16:54	6.16 pH	55.57 °F	0.07 µS/cm	8.88 mg/L	89.7 mV	5.50 ft	150.00 ml/min
11/3/2020 10:01 AM	19:54	6.16 pH	55.57 °F	0.07 µS/cm	8.80 mg/L	118.3 mV	5.50 ft	150.00 ml/min
11/3/2020 10:04 AM	22:54	6.13 pH	55.59 °F	0.07 µS/cm	8.71 mg/L	133.8 mV	5.50 ft	150.00 ml/min
11/3/2020 10:07 AM	25:54	6.12 pH	55.49 °F	0.07 µS/cm	8.67 mg/L	158.8 mV	5.50 ft	150.00 ml/min
11/3/2020 10:10 AM	28:54	6.12 pH	55.55 °F	0.07 µS/cm	8.60 mg/L	142.3 mV	5.50 ft	150.00 ml/min
11/3/2020 10:13 AM	31:55	6.13 pH	55.57 °F	0.07 µS/cm	8.55 mg/L	140.5 mV	5.50 ft	150.00 ml/min
11/3/2020 10:16 AM	34:55	6.15 pH	55.61 °F	0.07 µS/cm	8.52 mg/L	114.8 mV	5.50 ft	150.00 ml/min

11/3/2020 10:19 AM	37:55	6.14 pH	55.59 °F	0.07 µS/cm	8.47 mg/L	166.3 mV	5.50 ft	150.00 ml/min
11/3/2020 10:22 AM	40:55	6.14 pH	55.55 °F	0.07 µS/cm	8.36 mg/L	129.5 mV	5.50 ft	150.00 ml/min
11/3/2020 10:25 AM	43:55	6.19 pH	55.41 °F	0.07 µS/cm	8.61 mg/L	108.5 mV	5.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-502	Sample taken 10:30, final DTW 5.78, final RDO 8.61, ferrous iron 1.0. Parameters stabilized briefly and then were unstable after 40 min

Low-Flow Test Report:

Test Date / Time: 11/3/2020 9:55:34 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-139R Well Diameter: 2 in Casing Type: PVC Screen Length: 10.5 ft Top of Screen: 4.4 ft Total Depth: 14.9 ft Initial Depth to Water: 7.21 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5850 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: -0.06 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 9:55 AM	00:00	7.04 pH	54.17 °F	15,680 µS/cm	4.11 mg/L	170.2 mV	7.21 ft	150.00 ml/min
11/3/2020 9:58 AM	03:00	7.05 pH	55.00 °F	25,446 µS/cm	3.84 mg/L	132.5 mV	7.21 ft	150.00 ml/min
11/3/2020 10:01 AM	06:00	7.06 pH	55.15 °F	29,554 µS/cm	3.81 mg/L	116.4 mV	7.21 ft	150.00 ml/min
11/3/2020 10:04 AM	09:00	7.07 pH	55.23 °F	29,194 µS/cm	3.80 mg/L	107.5 mV	7.21 ft	150.00 ml/min
11/3/2020 10:07 AM	12:00	7.08 pH	55.12 °F	27,536 µS/cm	4.42 mg/L	96.0 mV	7.21 ft	150.00 ml/min
11/3/2020 10:10 AM	15:00	7.09 pH	54.99 °F	25,704 µS/cm	4.78 mg/L	102.9 mV	7.21 ft	150.00 ml/min
11/3/2020 10:13 AM	18:00	7.09 pH	55.03 °F	25,365 µS/cm	4.87 mg/L	103.1 mV	7.21 ft	150.00 ml/min
11/3/2020 10:16 AM	21:00	7.09 pH	55.03 °F	26,425 µS/cm	4.89 mg/L	99.2 mV	7.21 ft	150.00 ml/min
11/3/2020 10:19 AM	24:00	7.09 pH	55.02 °F	24,904 µS/cm	5.01 mg/L	92.3 mV	7.21 ft	150.00 ml/min
11/3/2020 10:22 AM	27:00	7.09 pH	54.97 °F	28,340 µS/cm	4.98 mg/L	95.8 mV	7.21 ft	150.00 ml/min
11/3/2020 10:25 AM	30:00	7.09 pH	55.03 °F	25,330 µS/cm	5.10 mg/L	93.5 mV	7.21 ft	150.00 ml/min
11/3/2020 10:28 AM	33:00	7.09 pH	55.13 °F	28,807 µS/cm	4.93 mg/L	95.8 mV	7.21 ft	150.00 ml/min

11/3/2020 10:31 AM	36:00	7.09 pH	55.20 °F	28,951 µS/cm	4.88 mg/L	100.9 mV	7.21 ft	150.00 ml/min
11/3/2020 10:34 AM	39:00	7.09 pH	55.27 °F	27,560 µS/cm	4.87 mg/L	103.8 mV	7.21 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-139R	Sample time: 1028 Final DTW: 7.15 Final RDO: ~5.0 Ferrous iron: 0.0 Sample ID - DUP-1 Sample time: 1028

Low-Flow Test Report:

Test Date / Time: 11/3/2020 11:19:41 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-512 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 6.58 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6350 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Rain, 50 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 11:19 AM	00:00	6.53 pH	59.36 °F	7,580.6 µS/cm	2.95 mg/L	34.4 mV	6.58 ft	150.00 ml/min
11/3/2020 11:22 AM	03:00	6.61 pH	59.71 °F	7,407.8 µS/cm	0.25 mg/L	-25.1 mV	6.58 ft	150.00 ml/min
11/3/2020 11:25 AM	06:00	6.59 pH	59.89 °F	6,677.9 µS/cm	0.19 mg/L	-40.5 mV	6.58 ft	150.00 ml/min
11/3/2020 11:28 AM	09:00	6.47 pH	59.88 °F	4,845.4 µS/cm	0.19 mg/L	-38.7 mV	6.58 ft	150.00 ml/min
11/3/2020 11:32 AM	12:44	6.38 pH	59.81 °F	3,673.2 µS/cm	0.33 mg/L	-30.1 mV	6.58 ft	150.00 ml/min
11/3/2020 11:33 AM	14:16	6.35 pH	59.87 °F	3,490.9 µS/cm	0.25 mg/L	-28.5 mV	6.58 ft	150.00 ml/min
11/3/2020 11:35 AM	16:03	6.35 pH	59.89 °F	3,416.7 µS/cm	0.43 mg/L	-27.1 mV	6.58 ft	150.00 ml/min
11/3/2020 11:38 AM	19:03	6.33 pH	59.97 °F	3,380.6 µS/cm	0.15 mg/L	-28.9 mV	6.58 ft	150.00 ml/min
11/3/2020 11:41 AM	22:03	6.33 pH	60.02 °F	3,262.6 µS/cm	0.12 mg/L	-29.5 mV	6.58 ft	150.00 ml/min
11/3/2020 11:42 AM	22:49	6.32 pH	59.99 °F	3,262.9 µS/cm	0.13 mg/L	-30.5 mV	6.58 ft	150.00 ml/min
11/3/2020 11:45 AM	25:49	6.32 pH	60.05 °F	3,233.3 µS/cm	0.39 mg/L	-31.4 mV	6.58 ft	150.00 ml/min
11/3/2020 11:49 AM	29:39	6.31 pH	59.97 °F	3,229.8 µS/cm	0.59 mg/L	-34.1 mV	6.58 ft	150.00 ml/min

11/3/2020 11:52 AM	32:39	6.31 pH	59.94 °F	3,179.3 µS/cm	0.08 mg/L	-34.9 mV	6.58 ft	150.00 ml/min
11/3/2020 11:56 AM	36:20	6.30 pH	60.00 °F	3,170.0 µS/cm	0.08 mg/L	-35.8 mV	6.58 ft	150.00 ml/min
11/3/2020 11:59 AM	39:20	6.29 pH	60.10 °F	3,156.0 µS/cm	0.07 mg/L	-36.8 mV	6.58 ft	150.00 ml/min
11/3/2020 12:02 PM	42:20	6.29 pH	60.16 °F	3,149.1 µS/cm	0.07 mg/L	-36.6 mV	6.58 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-512	Sample Time: 1210 Final DTW: 6.56 ft btoc Final RDO: 0.08 mg/L Ferrous Iron: 3.5 mg/L

Low-Flow Test Report:

Test Date / Time: 11/3/2020 11:35:09 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-503 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.16 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 6307.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Raining and 50 deg F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 11:35 AM	00:00	6.31 pH	59.22 °F	398.69 µS/cm	0.53 mg/L	1.3 mV	5.16 ft	150.00 ml/min
11/3/2020 11:38 AM	03:00	6.33 pH	58.19 °F	397.63 µS/cm	0.55 mg/L	-1.8 mV	5.16 ft	150.00 ml/min
11/3/2020 11:41 AM	06:00	6.33 pH	58.47 °F	396.98 µS/cm	0.29 mg/L	-9.9 mV	5.16 ft	150.00 ml/min
11/3/2020 11:44 AM	09:01	6.34 pH	58.75 °F	398.11 µS/cm	0.23 mg/L	-13.3 mV	5.16 ft	150.00 ml/min
11/3/2020 11:47 AM	12:01	6.34 pH	58.69 °F	399.92 µS/cm	0.25 mg/L	-26.6 mV	5.16 ft	150.00 ml/min
11/3/2020 11:50 AM	15:01	6.34 pH	58.64 °F	398.25 µS/cm	0.22 mg/L	-35.4 mV	5.16 ft	150.00 ml/min
11/3/2020 11:53 AM	18:01	6.34 pH	58.56 °F	398.70 µS/cm	0.18 mg/L	-35.6 mV	5.16 ft	150.00 ml/min
11/3/2020 11:56 AM	21:01	6.34 pH	58.59 °F	400.43 µS/cm	0.21 mg/L	-43.8 mV	5.16 ft	150.00 ml/min
11/3/2020 11:59 AM	24:01	6.35 pH	58.63 °F	399.51 µS/cm	0.21 mg/L	-48.8 mV	5.16 ft	150.00 ml/min
11/3/2020 12:02 PM	27:01	6.35 pH	58.71 °F	398.79 µS/cm	0.16 mg/L	-47.1 mV	5.16 ft	150.00 ml/min
11/3/2020 12:05 PM	30:01	6.35 pH	58.68 °F	397.98 µS/cm	0.16 mg/L	-50.9 mV	5.16 ft	150.00 ml/min
11/3/2020 12:08 PM	33:02	6.36 pH	58.77 °F	397.48 µS/cm	0.22 mg/L	-59.9 mV	5.16 ft	150.00 ml/min
11/3/2020 12:11 PM	36:03	6.37 pH	58.75 °F	397.70 µS/cm	0.14 mg/L	-59.8 mV	5.16 ft	150.00 ml/min

11/3/2020 12:14 PM	39:03	6.37 pH	58.75 °F	398.07 µS/cm	0.14 mg/L	-59.5 mV	5.16 ft	150.00 ml/min
11/3/2020 12:17 PM	42:03	6.37 pH	58.88 °F	398.47 µS/cm	0.20 mg/L	-68.2 mV	5.16 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-53	Sample taken at 12:25, final DTW 5.29, final RDO 0.20, ferrous iron 6.0

Low-Flow Test Report:

Test Date / Time: 11/3/2020 11:47:42 AM

Project: Edmonds Terminal 4Q20 (2)

Operator Name: MM

Location Name: MW-530 Well Diameter: 1 in Casing Type: PVC Screen Length: 5 m Top of Screen: 3 m Total Depth: 8 m	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 3150 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.55 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %	
11/3/2020 11:47 AM	00:00	6.69 pH	54.70 °F	33,465 µS/cm	0.41 mg/L	-221.7 mV	150.00 ml/min
11/3/2020 11:50 AM	03:00	6.69 pH	54.96 °F	34,062 µS/cm	0.24 mg/L	-232.3 mV	150.00 ml/min
11/3/2020 11:53 AM	06:00	6.69 pH	55.12 °F	33,992 µS/cm	0.19 mg/L	-240.8 mV	150.00 ml/min
11/3/2020 11:56 AM	09:00	6.69 pH	55.11 °F	33,838 µS/cm	0.15 mg/L	-251.0 mV	150.00 ml/min
11/3/2020 11:59 AM	12:00	6.70 pH	55.25 °F	33,493 µS/cm	0.12 mg/L	-255.8 mV	150.00 ml/min
11/3/2020 12:02 PM	15:00	6.71 pH	55.34 °F	33,079 µS/cm	0.11 mg/L	-261.7 mV	150.00 ml/min
11/3/2020 12:05 PM	18:00	6.72 pH	55.35 °F	32,674 µS/cm	0.11 mg/L	-266.5 mV	150.00 ml/min
11/3/2020 12:08 PM	21:00	6.73 pH	55.37 °F	32,188 µS/cm	0.10 mg/L	-270.4 mV	150.00 ml/min

Samples

Sample ID:	Description:
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MW-530

Sample time: 12:15
Final DTW: 7.76
Final RDO: 270.1
Ferrous iron: 0.0

Low-Flow Test Report:

Test Date / Time: 11/3/2020 12:21:50 PM

Project: Edmonds Terminal 4Q20

Operator Name: DSG

Location Name: LM-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 5.5 ft Top of Screen: 2.5 ft Total Depth: 8 ft Initial Depth to Water: 1.5 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 4 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.32 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 12:21 PM	00:00	5.96 pH	58.53 °F	10,886 µS/cm	0.28 mg/L	-42.6 mV	1.50 ft	150.00 ml/min
11/3/2020 12:24 PM	03:00	6.00 pH	58.76 °F	10,808 µS/cm	0.26 mg/L	-42.0 mV	1.50 ft	150.00 ml/min
11/3/2020 12:27 PM	06:00	6.01 pH	58.61 °F	10,818 µS/cm	0.18 mg/L	-44.5 mV	1.50 ft	150.00 ml/min
11/3/2020 12:30 PM	09:00	6.02 pH	58.95 °F	10,813 µS/cm	0.21 mg/L	-43.9 mV	1.50 ft	150.00 ml/min
11/3/2020 12:33 PM	12:00	6.03 pH	59.36 °F	10,744 µS/cm	0.15 mg/L	-51.6 mV	1.50 ft	150.00 ml/min
11/3/2020 12:36 PM	15:00	6.04 pH	59.47 °F	10,711 µS/cm	0.12 mg/L	-58.2 mV	1.50 ft	150.00 ml/min
11/3/2020 12:39 PM	18:00	6.06 pH	59.51 °F	10,683 µS/cm	0.12 mg/L	-64.2 mV	1.50 ft	150.00 ml/min
11/3/2020 12:42 PM	21:00	6.08 pH	59.57 °F	10,618 µS/cm	0.12 mg/L	-71.4 mV	1.50 ft	150.00 ml/min
11/3/2020 12:45 PM	24:00	6.09 pH	59.62 °F	10,586 µS/cm	0.15 mg/L	-76.4 mV	1.50 ft	150.00 ml/min
11/3/2020 12:48 PM	27:00	6.11 pH	59.62 °F	10,536 µS/cm	0.13 mg/L	-83.4 mV	1.50 ft	150.00 ml/min
11/3/2020 12:51 PM	30:00	6.13 pH	59.58 °F	10,493 µS/cm	0.12 mg/L	-90.1 mV	1.50 ft	150.00 ml/min
11/3/2020 12:54 PM	33:00	6.12 pH	59.53 °F	10,499 µS/cm	0.11 mg/L	-97.2 mV	1.50 ft	150.00 ml/min

11/3/2020 12:57 PM	36:00	6.14 pH	59.47 °F	10,419 µS/cm	0.11 mg/L	-100.8 mV	1.50 ft	150.00 ml/min
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Samples

Sample ID:	Description:
LM-2	Sample Time: 13:00 Final DTW 2.82 ft btoc Final RDO: 0.11 mg/L Ferrous Iron 6.5 mg/L

Low-Flow Test Report:

Test Date / Time: 11/3/2020 12:48:31 PM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-535 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 4.32 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 9 ft Estimated Total Volume Pumped: 2072.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586
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Test Notes:

Weather Conditions:

Rain, 50 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2020 12:48 PM	00:00	6.92 pH	53.57 °F	38,945 µS/cm	6.63 mg/L	84.7 mV	4.32 ft	150.00 ml/min
11/3/2020 12:51 PM	03:00	6.98 pH	53.34 °F	38,996 µS/cm	5.56 mg/L	84.4 mV	4.32 ft	150.00 ml/min
11/3/2020 12:54 PM	06:00	7.00 pH	53.23 °F	38,971 µS/cm	5.55 mg/L	85.2 mV	4.32 ft	150.00 ml/min
11/3/2020 12:57 PM	09:00	7.02 pH	53.21 °F	38,927 µS/cm	5.54 mg/L	86.6 mV	4.32 ft	150.00 ml/min
11/3/2020 1:00 PM	12:00	7.03 pH	53.18 °F	38,885 µS/cm	5.54 mg/L	88.0 mV	4.32 ft	150.00 ml/min
11/3/2020 1:02 PM	13:49	7.03 pH	53.20 °F	38,864 µS/cm	5.54 mg/L	89.1 mV	4.32 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-535	Sample Time: 1310 Final DTW: 4.40 ft btoc Final RDO: 5.54 mg/L Ferrous Iron: 0.0 mg/L

Low-Flow Test Report:

Test Date / Time: 11/4/2020 9:04:51 AM

Project: Edmonds Terminal 4Q20

Operator Name: Julia Vidonish

Location Name: MW-526 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 m Top of Screen: 3 m Total Depth: 13 m Initial Depth to Water: 5.44 ft	Pump Type: Geotech Geopump Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 5927.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: -0.4 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697450
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Test Notes:

Weather Conditions:

Raining and 55 deg F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 9:04 AM	00:00	6.03 pH	58.46 °F	190.93 µS/cm	0.99 mg/L	106.4 mV	5.44 ft	150.00 ml/min
11/4/2020 9:07 AM	03:00	6.03 pH	58.40 °F	175.69 µS/cm	0.54 mg/L	104.6 mV	5.44 ft	150.00 ml/min
11/4/2020 9:10 AM	06:01	6.01 pH	58.30 °F	181.14 µS/cm	0.40 mg/L	105.5 mV	5.44 ft	150.00 ml/min
11/4/2020 9:13 AM	09:01	6.02 pH	58.29 °F	181.97 µS/cm	0.34 mg/L	101.9 mV	5.44 ft	150.00 ml/min
11/4/2020 9:16 AM	12:02	6.00 pH	58.36 °F	180.38 µS/cm	0.30 mg/L	99.9 mV	5.44 ft	150.00 ml/min
11/4/2020 9:19 AM	15:02	5.99 pH	58.33 °F	184.12 µS/cm	0.26 mg/L	96.4 mV	5.44 ft	150.00 ml/min
11/4/2020 9:22 AM	18:02	5.99 pH	58.43 °F	180.94 µS/cm	0.23 mg/L	96.2 mV	5.44 ft	150.00 ml/min
11/4/2020 9:25 AM	21:02	5.98 pH	58.50 °F	179.59 µS/cm	0.23 mg/L	96.9 mV	5.44 ft	150.00 ml/min
11/4/2020 9:29 AM	24:50	5.96 pH	58.43 °F	177.66 µS/cm	0.22 mg/L	97.3 mV	5.44 ft	150.00 ml/min
11/4/2020 9:44 AM	39:31	6.76 pH	59.42 °F	0.07 µS/cm	10.30 mg/L	57.2 mV	5.44 ft	150.00 ml/min

Samples

Sample ID:	Description:
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MW-526

Sample taken at 09:30, final DTW 5.8, final RDO 0.22, ferrous iron 1.0. DUP-2 taken as well

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/4/2020 9:14:56 AM

Project: Edmonds Terminal 4Q20

Operator Name: MM

Location Name: MW-129R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 5.53 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 4722.5 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 1.44 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 697401
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Test Notes:

Weather Conditions:

Light rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 9:14 AM	00:00	6.96 pH	57.01 °F	1,409.4 µS/cm	0.26 mg/L	-154.5 mV	5.53 ft	150.00 ml/min
11/4/2020 9:17 AM	03:00	6.96 pH	56.90 °F	1,334.3 µS/cm	0.13 mg/L	-173.7 mV	5.53 ft	150.00 ml/min
11/4/2020 9:20 AM	06:00	6.95 pH	56.89 °F	1,332.3 µS/cm	0.10 mg/L	-177.7 mV	5.53 ft	150.00 ml/min
11/4/2020 9:28 AM	13:15	6.94 pH	56.80 °F	1,348.0 µS/cm	0.13 mg/L	-177.2 mV	5.53 ft	150.00 ml/min
11/4/2020 9:31 AM	16:15	6.93 pH	56.81 °F	1,347.6 µS/cm	0.11 mg/L	-182.9 mV	5.53 ft	150.00 ml/min
11/4/2020 9:34 AM	19:29	6.92 pH	56.71 °F	1,351.7 µS/cm	0.10 mg/L	-187.6 mV	5.53 ft	150.00 ml/min
11/4/2020 9:37 AM	22:29	6.92 pH	56.78 °F	1,348.1 µS/cm	0.09 mg/L	-185.5 mV	5.53 ft	150.00 ml/min
11/4/2020 9:40 AM	25:29	6.92 pH	56.80 °F	1,350.4 µS/cm	0.10 mg/L	-188.8 mV	5.53 ft	150.00 ml/min
11/4/2020 9:43 AM	28:29	6.91 pH	56.78 °F	1,349.7 µS/cm	0.09 mg/L	-184.3 mV	5.53 ft	150.00 ml/min
11/4/2020 9:46 AM	31:29	6.91 pH	56.82 °F	1,351.9 µS/cm	0.07 mg/L	-184.2 mV	5.53 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-129R	Sample time:950 Final DTW: 6.97 Final RDO: see report Ferrous Iron: 3.5

Low-Flow Test Report:

Test Date / Time: 11/4/2020 9:30:54 AM

Project: Edmonds Terminal 4Q20

Operator Name: KZ

Location Name: MW-531 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 3 ft Total Depth: 13 ft Initial Depth to Water: 7.78 ft	Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 1/4 Pump Intake From TOC: 10 ft Estimated Total Volume Pumped: 2250 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Vented Serial Number: 469079
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Test Notes:

Weather Conditions:

Overcast, 55 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 9:30 AM	00:00	6.17 pH	60.27 °F	7,407.6 µS/cm	2.12 mg/L	104.6 mV	7.78 ft	150.00 ml/min
11/4/2020 9:33 AM	03:00	6.17 pH	60.53 °F	7,329.9 µS/cm	0.83 mg/L	103.6 mV	7.78 ft	150.00 ml/min
11/4/2020 9:36 AM	06:00	6.20 pH	60.65 °F	7,150.9 µS/cm	0.81 mg/L	107.3 mV	7.78 ft	150.00 ml/min
11/4/2020 9:39 AM	09:00	6.25 pH	60.70 °F	6,899.0 µS/cm	0.96 mg/L	109.9 mV	7.78 ft	150.00 ml/min
11/4/2020 9:42 AM	12:00	6.28 pH	60.75 °F	6,738.3 µS/cm	0.89 mg/L	111.7 mV	7.78 ft	150.00 ml/min
11/4/2020 9:45 AM	15:00	6.31 pH	60.78 °F	6,437.2 µS/cm	0.96 mg/L	111.9 mV	7.78 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-531	Sample Time: 1000 Final DTW: 7.78 ft btoc Final RDO: 0.96 mg/L Ferrous Iron: 0.05 mg/L

DUP-1	Sample Time: 1000 Final DTW: 7.78 ft btoc Final RDO: 0.96 mg/L Ferrous Iron: 0.05 mg/L
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/4/2020 9:34:12 AM

Project: Edmonds Terminal 4Q20

Operator Name: DSG

<p>Location Name: MW-104 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 5 ft Total Depth: 15 ft Initial Depth to Water: 7.96 ft</p>	<p>Pump Type: Geotech Geopump Series 2 Tubing Type: Polyethylene 0.170 x 0.25 Pump Intake From TOC: 4 ft Estimated Total Volume Pumped: 5320 ml Flow Cell Volume: 130 ml Final Flow Rate: 150 ml/min Final Draw Down: 0 ft</p>	<p>Instrument Used: Aqua TROLL 600 Vented Serial Number: 466586</p>
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Test Notes:

Weather Conditions:

Cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2020 9:34 AM	00:00	5.73 pH	59.68 °F	7,344.2 µS/cm	0.64 mg/L	52.7 mV	7.96 ft	150.00 ml/min
11/4/2020 9:37 AM	03:00	5.72 pH	58.92 °F	7,759.6 µS/cm	0.15 mg/L	26.3 mV	7.96 ft	150.00 ml/min
11/4/2020 9:40 AM	06:00	5.73 pH	58.88 °F	8,132.1 µS/cm	0.17 mg/L	5.7 mV	7.96 ft	150.00 ml/min
11/4/2020 9:43 AM	09:00	5.74 pH	58.90 °F	8,575.0 µS/cm	0.15 mg/L	-9.9 mV	7.96 ft	150.00 ml/min
11/4/2020 9:46 AM	12:00	5.76 pH	58.90 °F	8,995.4 µS/cm	0.12 mg/L	-19.9 mV	7.96 ft	150.00 ml/min
11/4/2020 9:49 AM	15:23	5.76 pH	58.90 °F	9,287.3 µS/cm	0.12 mg/L	-29.1 mV	7.96 ft	150.00 ml/min
11/4/2020 9:50 AM	16:13	5.78 pH	58.91 °F	9,373.2 µS/cm	0.14 mg/L	-34.0 mV	7.96 ft	150.00 ml/min
11/4/2020 9:53 AM	19:13	5.79 pH	58.83 °F	9,658.6 µS/cm	0.09 mg/L	-38.1 mV	7.96 ft	150.00 ml/min
11/4/2020 9:56 AM	22:13	5.78 pH	58.85 °F	9,811.2 µS/cm	0.08 mg/L	-40.3 mV	7.96 ft	150.00 ml/min
11/4/2020 9:57 AM	23:24	5.80 pH	58.86 °F	9,894.0 µS/cm	0.10 mg/L	-42.2 mV	7.96 ft	150.00 ml/min
11/4/2020 10:00 AM	26:24	5.79 pH	58.85 °F	10,012 µS/cm	0.12 mg/L	-54.1 mV	7.96 ft	150.00 ml/min
11/4/2020 10:03 AM	29:28	5.80 pH	58.93 °F	10,130 µS/cm	0.11 mg/L	-60.0 mV	7.96 ft	150.00 ml/min

11/4/2020 10:06 AM	32:28	5.80 pH	58.88 °F	10,259 µS/cm	0.10 mg/L	-65.2 mV	7.96 ft	150.00 ml/min
11/4/2020 10:09 AM	35:28	5.80 pH	58.93 °F	10,327 µS/cm	0.11 mg/L	-67.9 mV	7.96 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-104	Sample Time: 10:18 Final DTW: 8.21 ft btoc Final RDO: 0.11 mg/L Ferrous Iron: 2.0 mg/L
MW-104MS	Sample Time 10:23
MW-104MSD	Sample Time 10:28

Monitoring well	PiP (ppm)	Time	PiW (ft)	Monitoring well	PiP (ppm)	Time	PiW (ft btec)
LM-2	0.0	1145	1.62	MW-522	0.0	1145	8.52
MW-8R	0.0	1150	8.51	MW-523	0.0	1153	8.21
MW-13 u	0.0	1214	17.31	MW-524	0.0	1159	7.92
MW-20R	0.0	1140	6.70	MW-525	0.0	1135	6.57
MW-101	0.0	1132	9.61	MW-526	0.0	1154	5.44
MW-104	0.0	1136	9.33	MW-527	0.0	1207	9.51
MW-108	0.0	1141	5.75	MW-528	0.0	1211	10.40
MW-109	0.0	1138	6.71	MW-530	0.0	1143	6.53
MW-126	0.0	1128	5.82	MW-531	0.0	1138	7.92
MW-129R	4.4	1129	5.58	MW-532	0.0	1151	7.58
MW-134X	0.0	1228	26.22	MW-533	0.0	1116	5.11
MW-135	0.0	1216	11.05	MW-534	0.0	1121	3.55
MW-136	0.2	1212	8.17	MW-535	0.0	1119	4.78
MW-139R	0.0	1126	7.22	MW-ER	2.1	1125	7.00
MW-143	1.3	1132	4.74				
MW-147	0.0	1156	5.73				
MW-149R	0.0	1204	6.92				
MW-150	0.0	1208	7.15				
MW-203	0.0	1212	22.60				
MW-500	0.0	1205	5.88				
MW-501	0.2	1203	6.41				
MW-502	0.0	1203	5.46				
MW-503	0.0	1218	7.23				
MW-504	0.0	1152	6.78				
MW-505	0.0	1154	4.77				
MW-506	0.0	1150	6.80				
MW-507	0.0	1149	6.91				
MW-509	0.0	1233	3.66				
MW-511	0.0	1205	8.19				
MW-512	0.0	1156	6.70				
MW-513	0.0	1226	4.53				
MW-514	0.0	1230	4.79				
MW-515	0.0	1230	5.04				
MW-516	0.0	1228	4.69				
MW-517	0.0	1222	5.45				
MW-518	0.0	1129	8.46				
MW-519	0.0	1140	7.28				
MW-520	0.0	1143	7.98				
MW-521	0.0	1145	6.87				

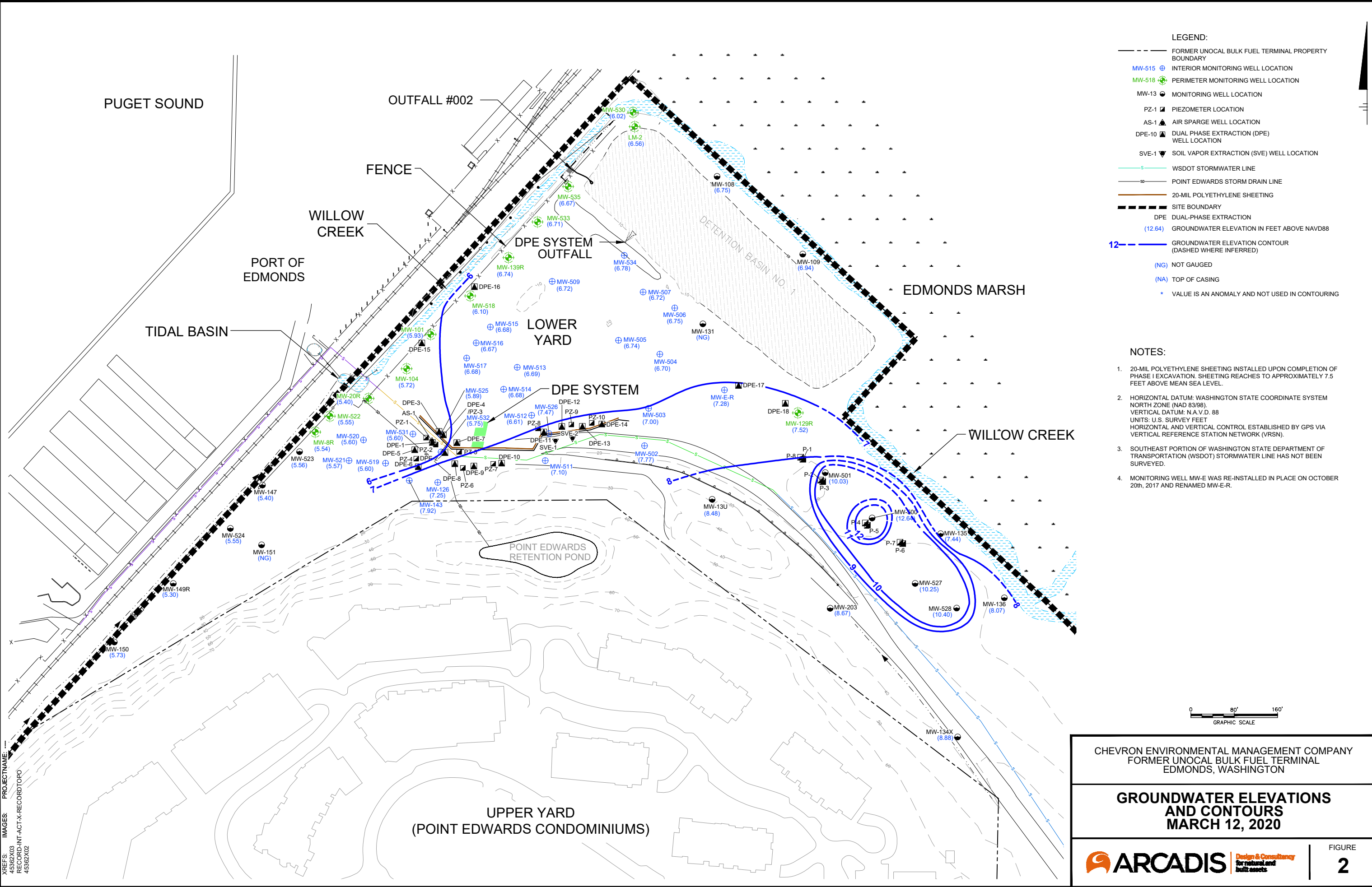
Low Tide at 11:48 on 11-2-20

APPENDIX C

Groundwater Sampling Event Figures

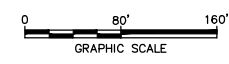


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 XREFS: IMAGES: PROJECTNAME: RECORD-INT-ACT-X-RECORD TOPO 45362X03 45362X02



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▣ PIEZOMETER LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▣ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▽ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (12.64) GROUNDWATER ELEVATION IN FEET ABOVE NAVD88
 - 12- - - GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - (NG) NOT GAUGED
 - (NA) TOP OF CASING
 - * VALUE IS AN ANOMALY AND NOT USED IN CONTOURING

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98). VERTICAL DATUM: N.A.V.D. 88. UNITS: U.S. SURVEY FEET. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
 3. SOUTHEAST PORTION OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE HAS NOT BEEN SURVEYED.
 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



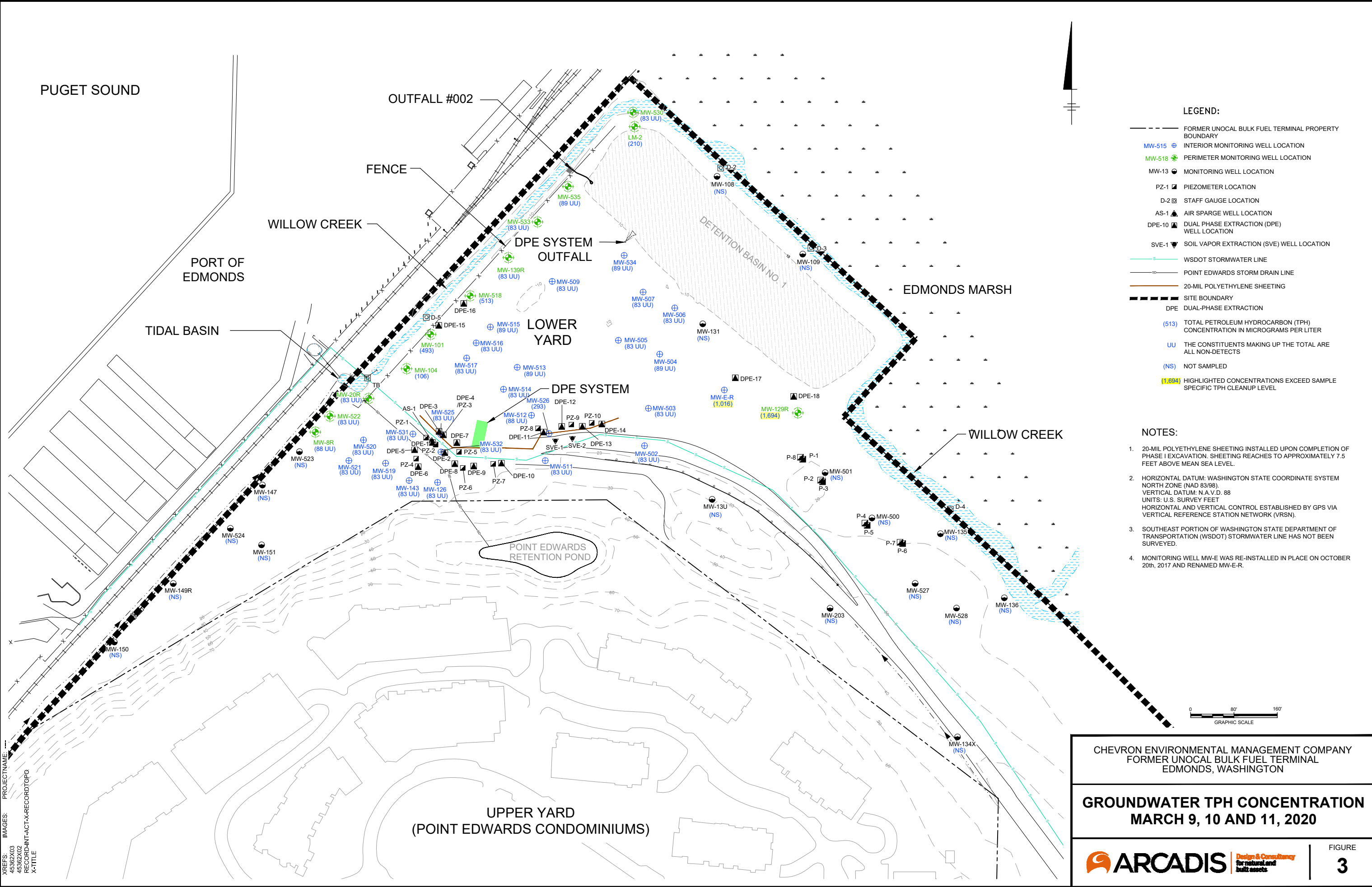
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER ELEVATIONS
 AND CONTOURS
 MARCH 12, 2020**

ARCADIS | Design & Consultancy
 for natural and built assets

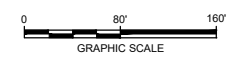
FIGURE
2

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- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ⊕ MONITORING WELL LOCATION
 - PZ-1 ⊕ PIEZOMETER LOCATION
 - D-2 ⊕ STAFF GAUGE LOCATION
 - AS-1 ⊕ AIR SPARGE WELL LOCATION
 - DPE-10 ⊕ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ⊕ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (513) TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - (1,694) HIGHLIGHTED CONCENTRATIONS EXCEED SAMPLE SPECIFIC TPH CLEANUP LEVEL

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98). VERTICAL DATUM: N.A.V.D. 88. UNITS: U.S. SURVEY FEET. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
 3. SOUTHEAST PORTION OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE HAS NOT BEEN SURVEYED.
 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



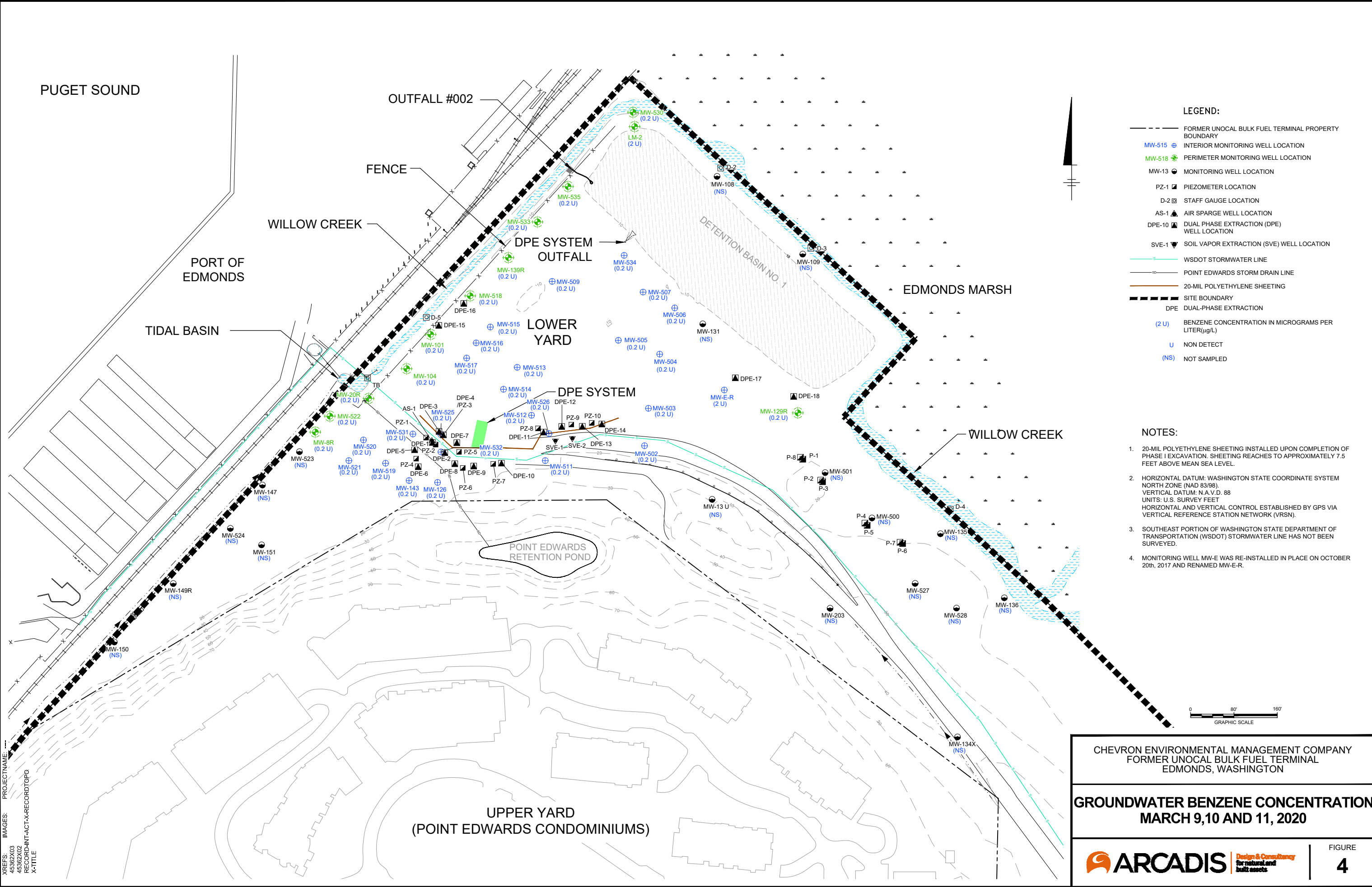
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER TPH CONCENTRATION
 MARCH 9, 10 AND 11, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

FIGURE
3

CITY:\Recd\DIV\GROUP\Recd\ DB\Recd\ LD\Opt\ PIC\Opt\ PM\Recd\ TM\Opt\ LVR\Opt\ON=OFF=REF
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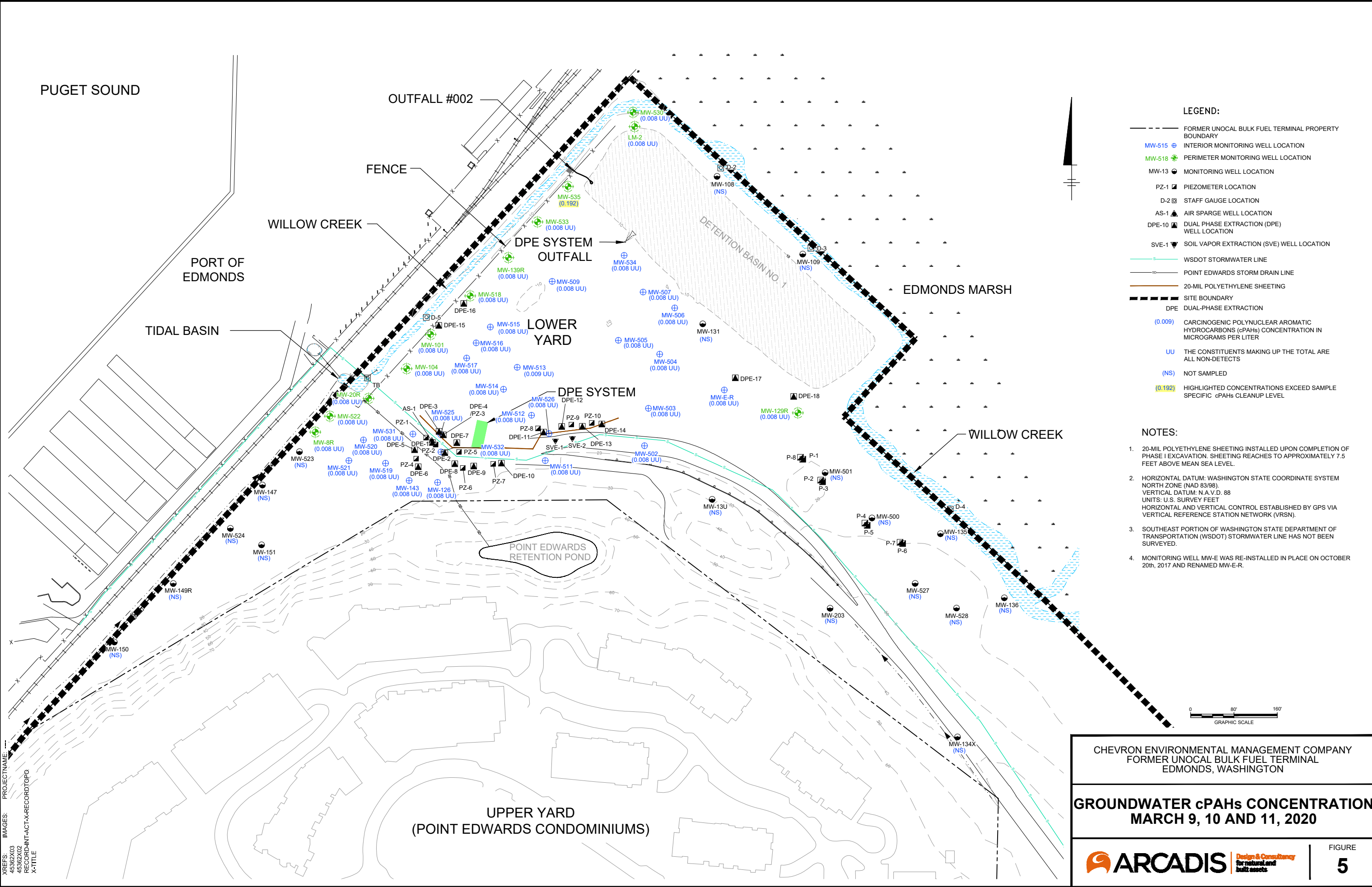
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

GROUNDWATER BENZENE CONCENTRATION
 MARCH 9, 10 AND 11, 2020

Design & Consultancy
 for natural and built assets

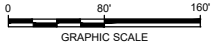
FIGURE
4

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 C:\Users\chutia\4677\BIM\360\Arcadis\AIA - CHEVRON CORPORATION\Project Files\Edmonds-Public Review Draft\2020\30005555\01-DWG\4536203-FIG4 cPAHs.dwg LAYOUT: 4 - SAVED: 4/22/2020 12:02 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 4/3/2020
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- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▲ PIEZOMETER LOCATION
 - D-2 □ STAFF GAUGE LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▲ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE
 - (0.009) CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS (cPAHs) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - (0.192) HIGHLIGHTED CONCENTRATIONS EXCEED SAMPLE SPECIFIC cPAHs CLEANUP LEVEL

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98).
 VERTICAL DATUM: N.A.V.D. 88
 UNITS: U.S. SURVEY FEET
 HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
 3. SOUTHEAST PORTION OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE HAS NOT BEEN SURVEYED.
 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



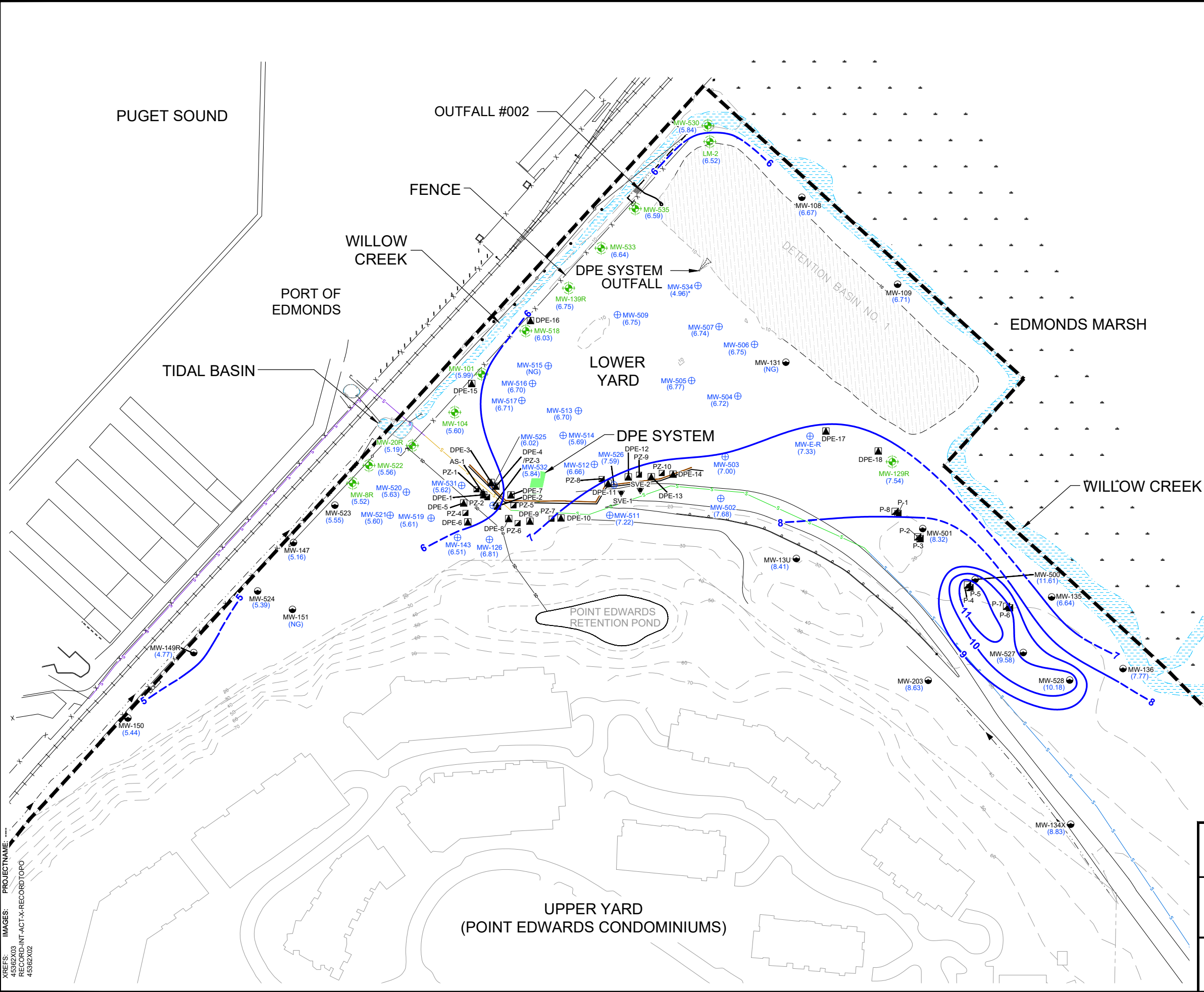
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER cPAHs CONCENTRATION
 MARCH 9, 10 AND 11, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

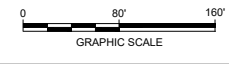
FIGURE
5

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 PLOTTED: 10/21/2020 3:23 PM BY: MACHCHIVAR, RAVANEELA
 XREFS: IMAGES: PROJECTNAME: RECORD-INT-ACT-X-RECORD/TOPO 45362X03 45362X02



- LEGEND:**
- SITE BOUNDARY
 - - - FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ⊕ MONITORING WELL LOCATION
 - PZ-1 ⊕ PIEZOMETER LOCATION
 - AS-1 ⊕ AIR SPARGE WELL LOCATION
 - DPE-10 ⊕ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ⊕ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - DPE DUAL-PHASE EXTRACTION
 - (7.00) GROUNDWATER ELEVATION IN FEET ABOVE NAVD88
 - GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - (NG) NOT GAUGED
 - VALUE IS AN ANOMALY AND NOT USED IN CONTOURING

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98). VERTICAL DATUM: N.A.V.D. 88. UNITS: U.S. SURVEY FEET. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
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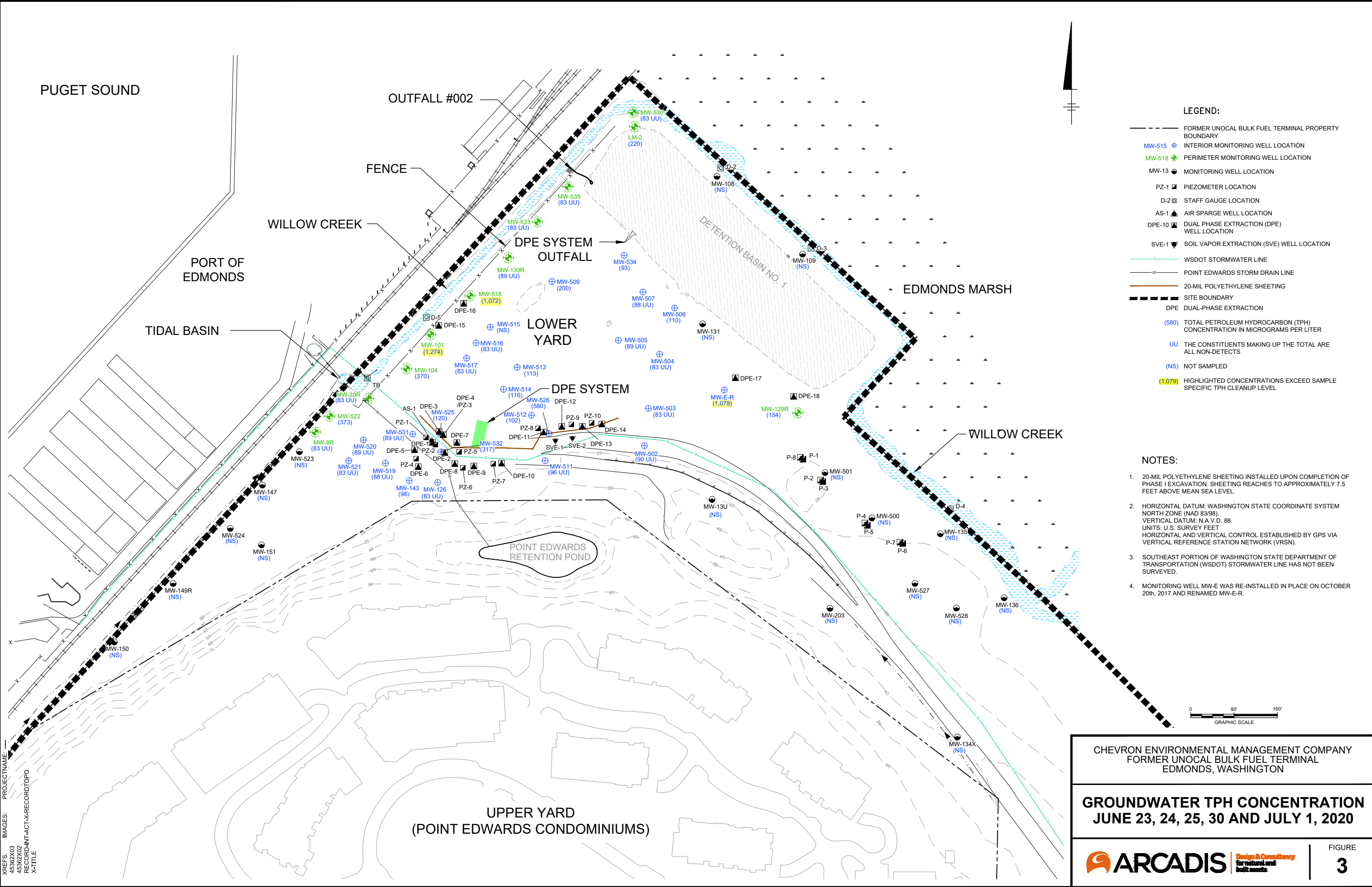
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER ELEVATIONS
 AND CONTOURS
 JUNE 22, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

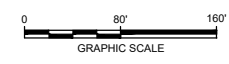
FIGURE
2

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 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▴ PIEZOMETER LOCATION
 - D-2 ⊕ STAFF GAUGE LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▴ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▽ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (580) TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - (1,079) HIGHLIGHTED CONCENTRATIONS EXCEED SAMPLE SPECIFIC TPH CLEANUP LEVEL

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98).
 VERTICAL DATUM: N.A.V.D. 88
 UNITS: U.S. SURVEY FEET
 HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
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 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



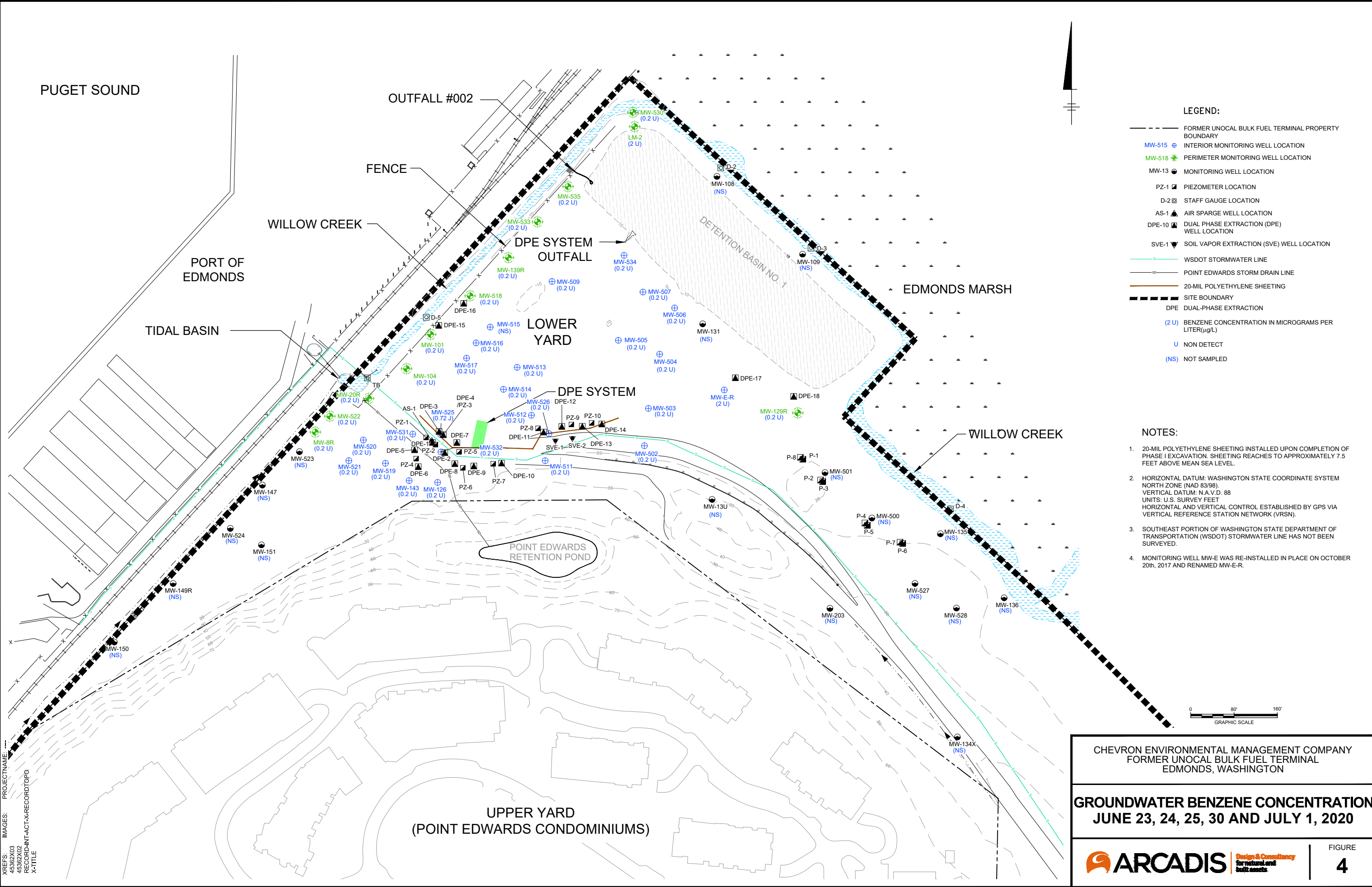
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER TPH CONCENTRATION
 JUNE 23, 24, 25, 30 AND JULY 1, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

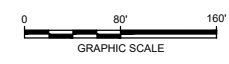
FIGURE
3

CITY:\Recd\DIV\GROUP\Recd\ DB\Recd\ LD\Opt\ PIC\Opt\ PM\Recd\ TM\Opt\ LVR\Opt\ONE\OFF=REF
 C:\Users\mchchir1258\BIM_360\Acad\ANA - CHEVRON CORPORATION\Project Files\Edmonds\Public Review Draft\2020\3000563501-DWG\4562D03-FIG-3 BENZENE.dwg LAYOUT: 4 - SAVED: 11/9/2020 3:03 PM ACADVER: 23.1S (LMS TECH) PAGES: 10 PLOTTED: 11/9/2020 3:07 PM BY: MACHCHIRAVANEELA



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▴ PIEZOMETER LOCATION
 - D-2 ⊠ STAFF GAUGE LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▴ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▽ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (2 U) BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
 - U NON DETECT
 - (NS) NOT SAMPLED

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



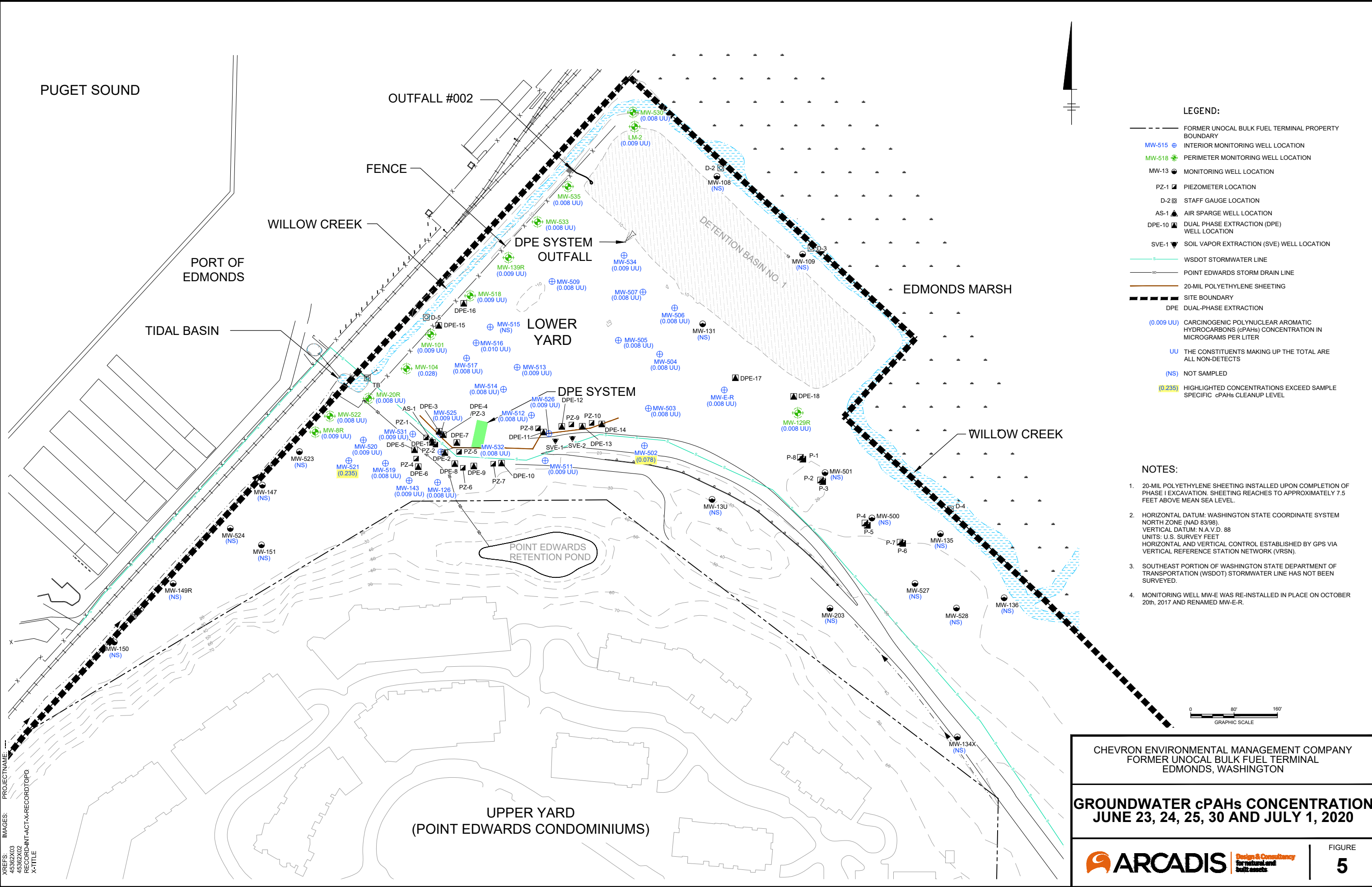
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

GROUNDWATER BENZENE CONCENTRATION
JUNE 23, 24, 25, 30 AND JULY 1, 2020

ARCADIS Design & Consultancy
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FIGURE
4

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 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▴ PIEZOMETER LOCATION
 - D-2 □ STAFF GAUGE LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▽ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▽ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE
 - (0.009 UU) CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS (cPAHs) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - (0.235) HIGHLIGHTED CONCENTRATIONS EXCEED SAMPLE SPECIFIC cPAHs CLEANUP LEVEL

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98).
 VERTICAL DATUM: N.A.V.D. 88
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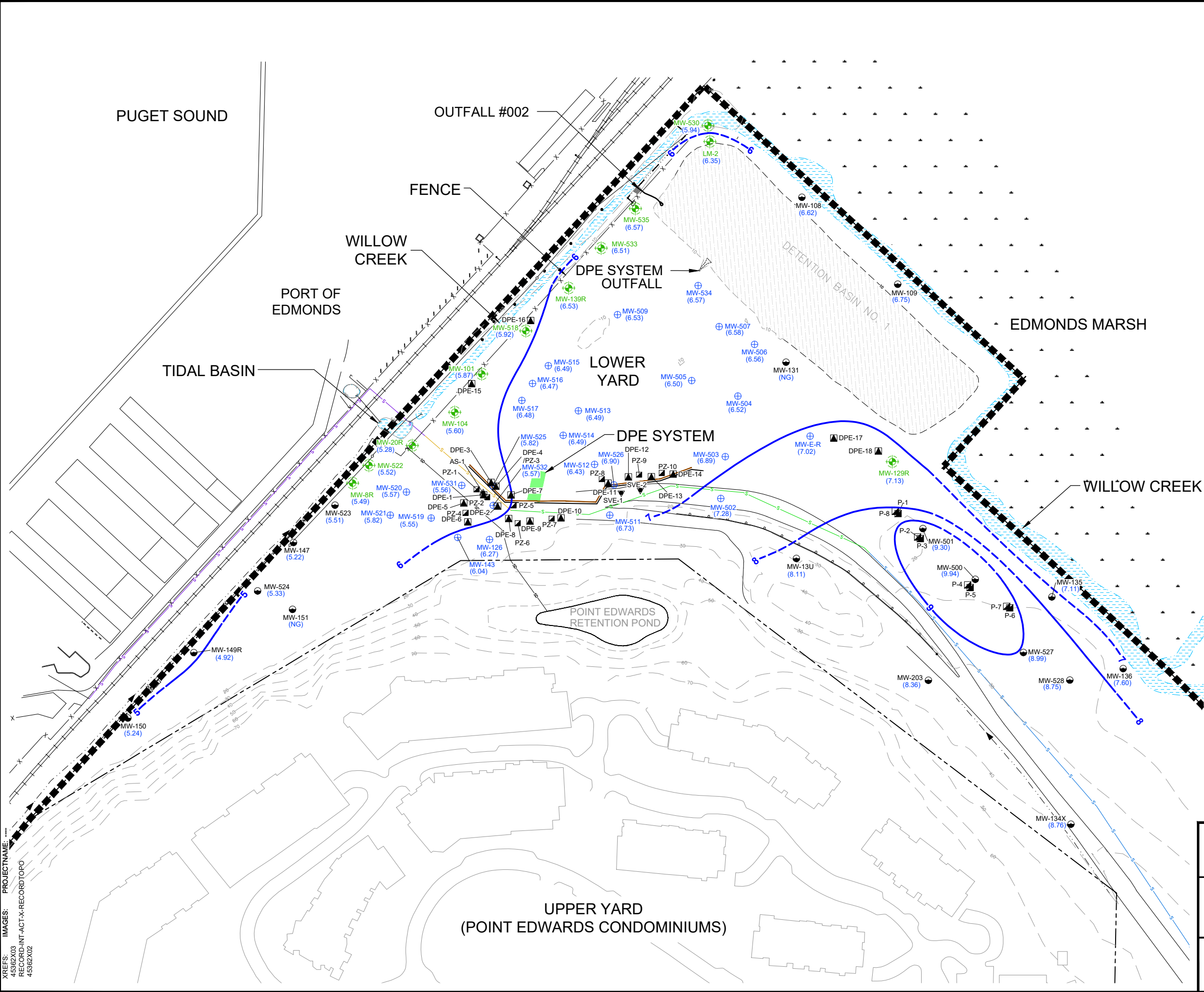
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER cPAHs CONCENTRATION
 JUNE 23, 24, 25, 30 AND JULY 1, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

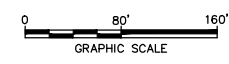
FIGURE
5

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- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▣ PIEZOMETER LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▣ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (9.94) GROUNDWATER ELEVATION IN FEET ABOVE NAVD88
 - 9 - - - GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - (NG) NOT GAUGED

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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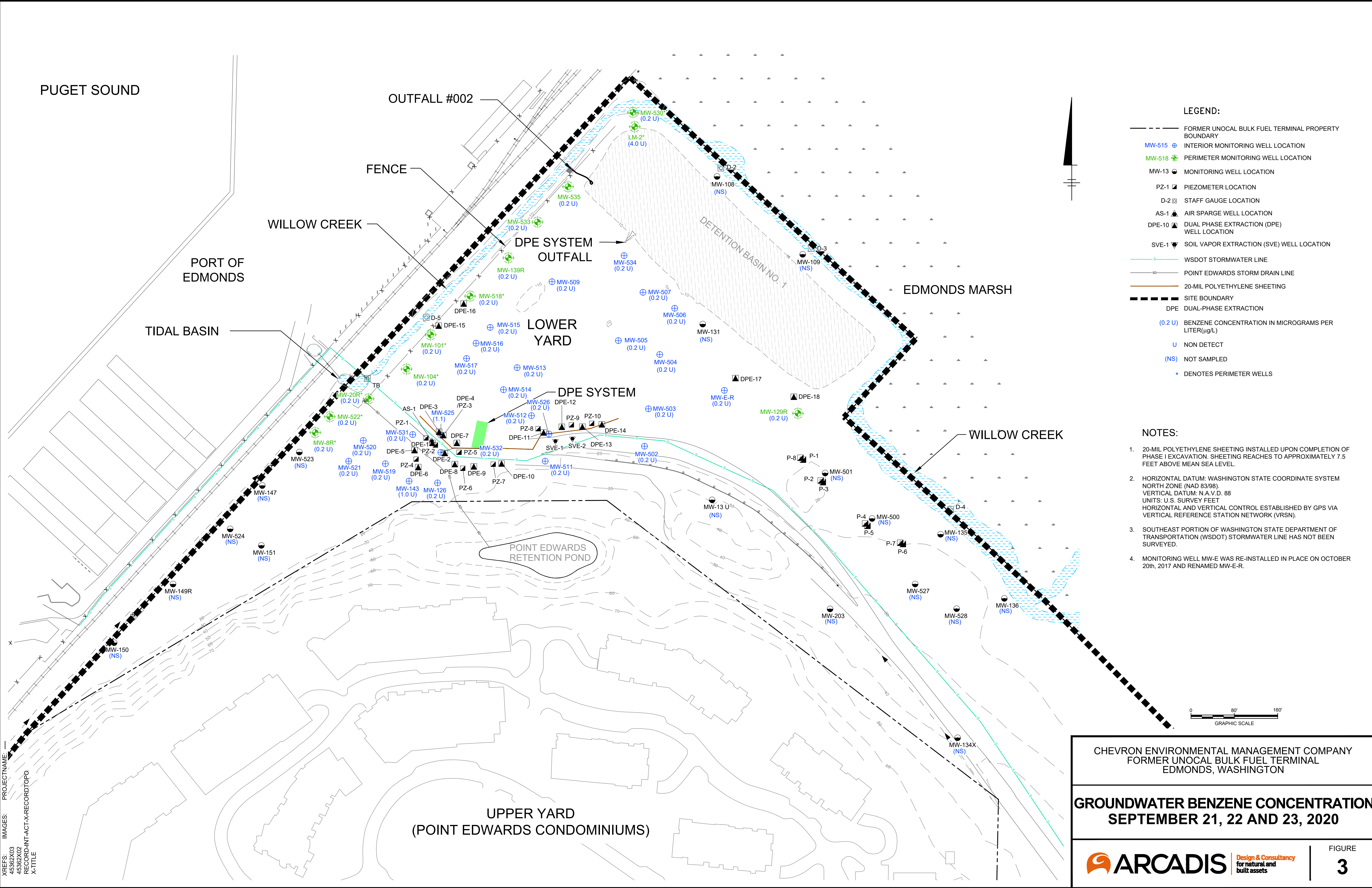
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER UNOCAL BULK FUEL TERMINAL
EDMONDS, WASHINGTON

**GROUNDWATER ELEVATIONS
AND CONTOURS
SEPTEMBER 18, 2020**

ARCADIS Design & Consultancy
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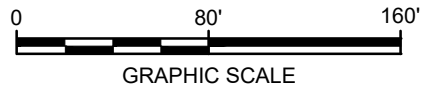
FIGURE
1

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 9:12 PM BY: Y.M. BABU
 XREFS: IMAGES: PROJECTNAME
 45362X03
 45362X02
 RECORD-INT-ACT-X-RECORD\TOPO
 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ⊕ MONITORING WELL LOCATION
 - PZ-1 ⊕ PIEZOMETER LOCATION
 - D-2 ⊕ STAFF GAUGE LOCATION
 - AS-1 ⊕ AIR SPARGE WELL LOCATION
 - DPE-10 ⊕ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ⊕ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (0.2 U) BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
 - U NON DETECT
 - (NS) NOT SAMPLED
 - * DENOTES PERIMETER WELLS

- NOTES:**
- 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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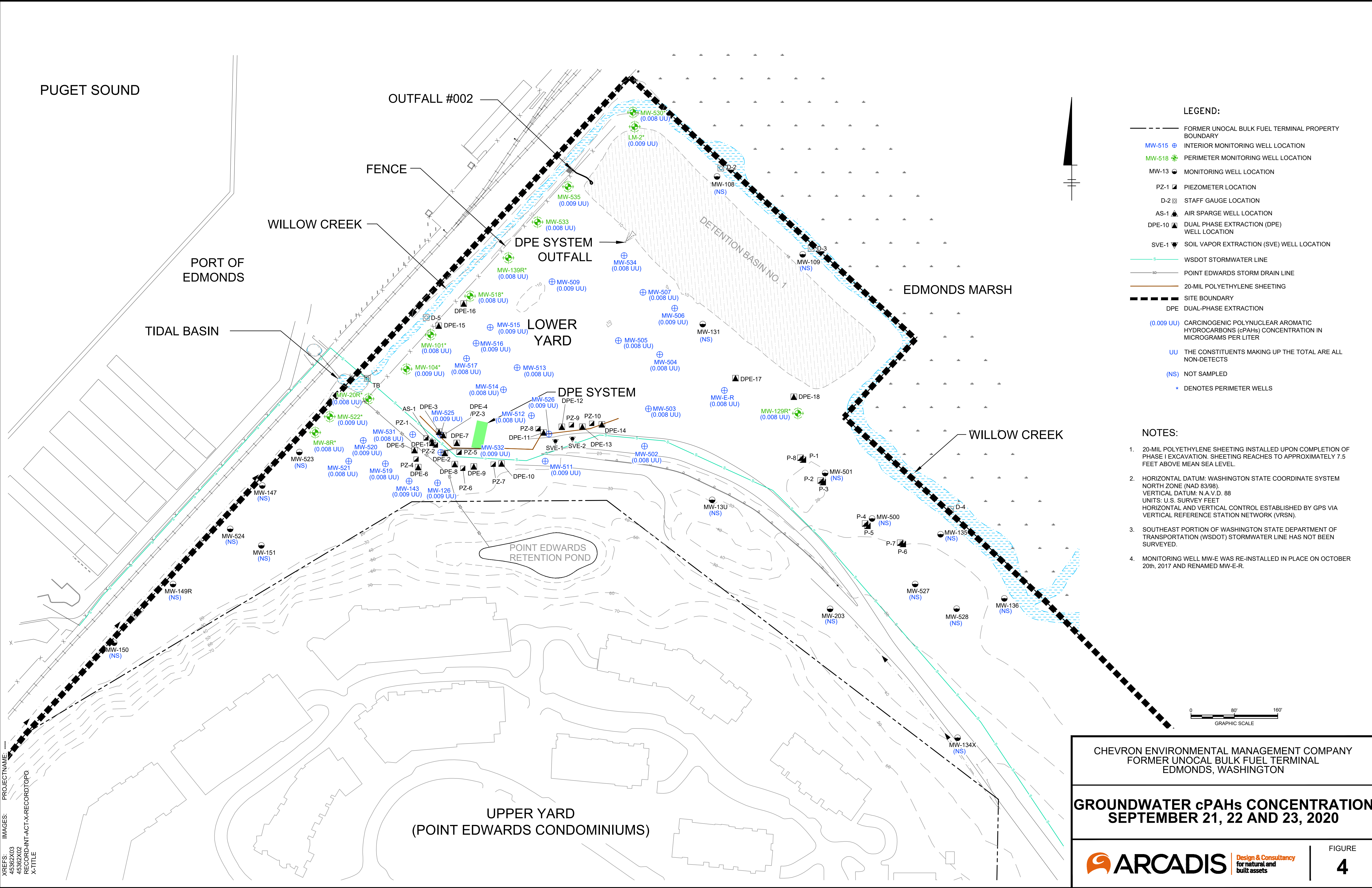
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER BENZENE CONCENTRATION
 SEPTEMBER 21, 22 AND 23, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

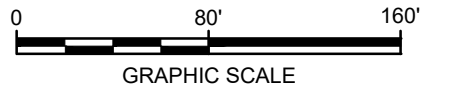
FIGURE
3

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 C:\Users\YMB2640\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Edmonds\Public Review Draft\2020\3004688501-DWG\302020-FIG04-cPAHs.dwg LAYOUT: 4. SAVED: 11/6/2020 9:10 PM ACADVER: 23.1S (LMS TECH) PAGESSETUP: --- PLOTSTYLETABLE: --- PLOTTED: 11/6/2020 9:12
 PW BY: Y. M. BABU
 XREFS: IMAGES: PROJECTNAME: ---
 45362X03
 45362X02
 RECORD-INT-ACT-X-RECORD\TOPO
 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▲ PIEZOMETER LOCATION
 - D-2 □ STAFF GAUGE LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▲ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (0.009 UU) CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS (cPAHs) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - DENOTES PERIMETER WELLS

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98).
 VERTICAL DATUM: N.A.V.D. 88
 UNITS: U.S. SURVEY FEET
 HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
 3. SOUTHEAST PORTION OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STORMWATER LINE HAS NOT BEEN SURVEYED.
 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



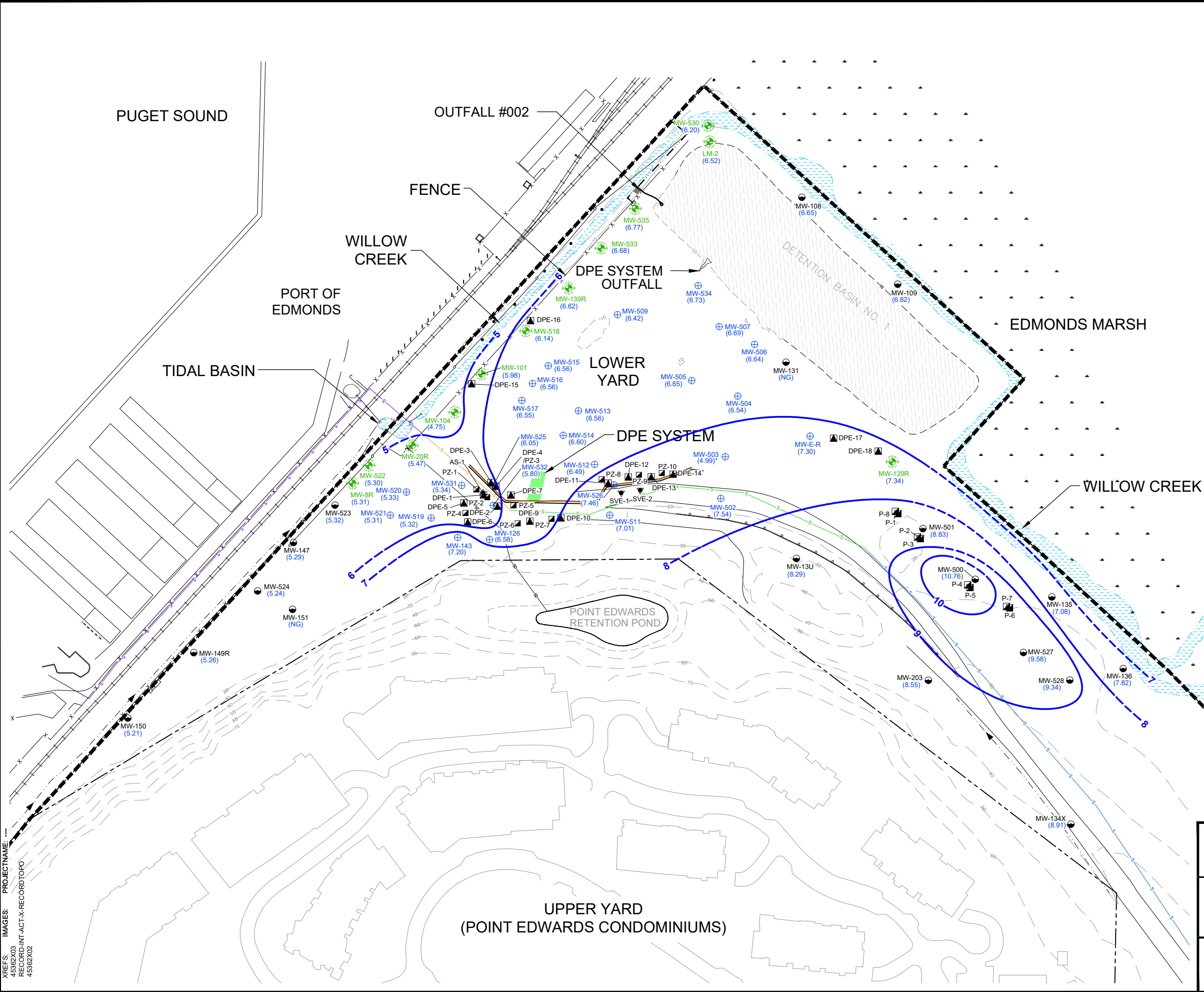
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER cPAHs CONCENTRATION
 SEPTEMBER 21, 22 AND 23, 2020**

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FIGURE
4

CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD DB: R. OBERLANDER, LD: R. OBERLANDER, PIC: (Opt) PM: (Rept) TM: (Cpt) LXR: (Cpt) LXR: (Cpt) OFF: (REF)
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 XREFS: IMAGES: PROJECTNAME: ---
 45362X03 RECORD-INT-ACT-X-RECORD/TOPO 45362X02



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ● MONITORING WELL LOCATION
 - PZ-1 ▣ PIEZOMETER LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▣ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (10.76) GROUNDWATER ELEVATION IN FEET ABOVE NAVD88
 - 10 --- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - (NG) NOT GAUGED
 - VALUE IS AN ANOMALY AND NOT USED IN CONTOURING

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
 2. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE (NAD 83/98). VERTICAL DATUM: N.A.V.D. 88. UNITS: U.S. SURVEY FEET. HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY GPS VIA VERTICAL REFERENCE STATION NETWORK (VRSN).
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 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.



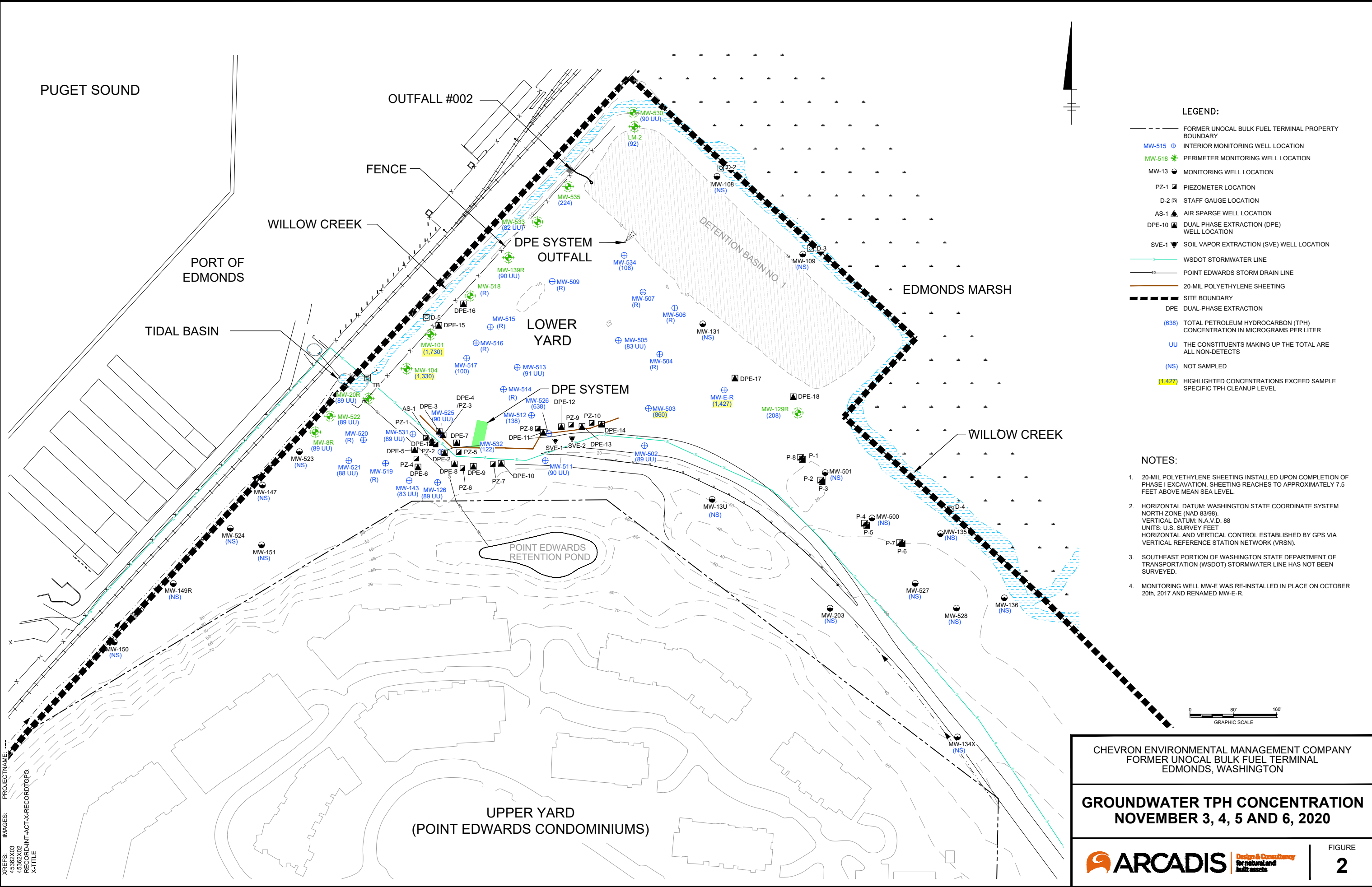
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER ELEVATIONS
 AND CONTOURS
 NOVEMBER 2, 2020**

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FIGURE
1

CITY:\Recd\DIV\GROUP\Recd\ DB\Recd\ LD\Opt\ PIC\Opt\ PM\Recd\ TM\Opt\ LVR\Opt\ONE\OFF+REF+
 C:\Users\p0104118M\360\Arcadis\A - CHEVRON CORPORATION\Project Files\Edmonds-Public Review Draft\2020\3069430101-DWG\G\MW-2020\4-F03-TPH.dwg LAYOUT: 3 - SAVED: 1/18/2021 11:07 AM ACADVER: 23.1S (LMS TECH) PAGESSETUP: --- PLOTSTYLETABLE: --- PLOTTED: 1/18/2021 11:07 AM BY: ANANEYAKUMAR, PAVAN KUMAR
 XREFS: IMAGES: PROJECTNAME: ---
 45362X03
 45362X02
 RECORD-INT-ACT-X-RECORD\TOPO
 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
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 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - DPE-10 ▣ DUAL PHASE EXTRACTION (DPE) WELL LOCATION
 - SVE-1 ▽ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (638) TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - (NS) NOT SAMPLED
 - (1,427) HIGHLIGHTED CONCENTRATIONS EXCEED SAMPLE SPECIFIC TPH CLEANUP LEVEL

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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 UNITS: U.S. SURVEY FEET
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 4. MONITORING WELL MW-E WAS RE-INSTALLED IN PLACE ON OCTOBER 20th, 2017 AND RENAMED MW-E-R.

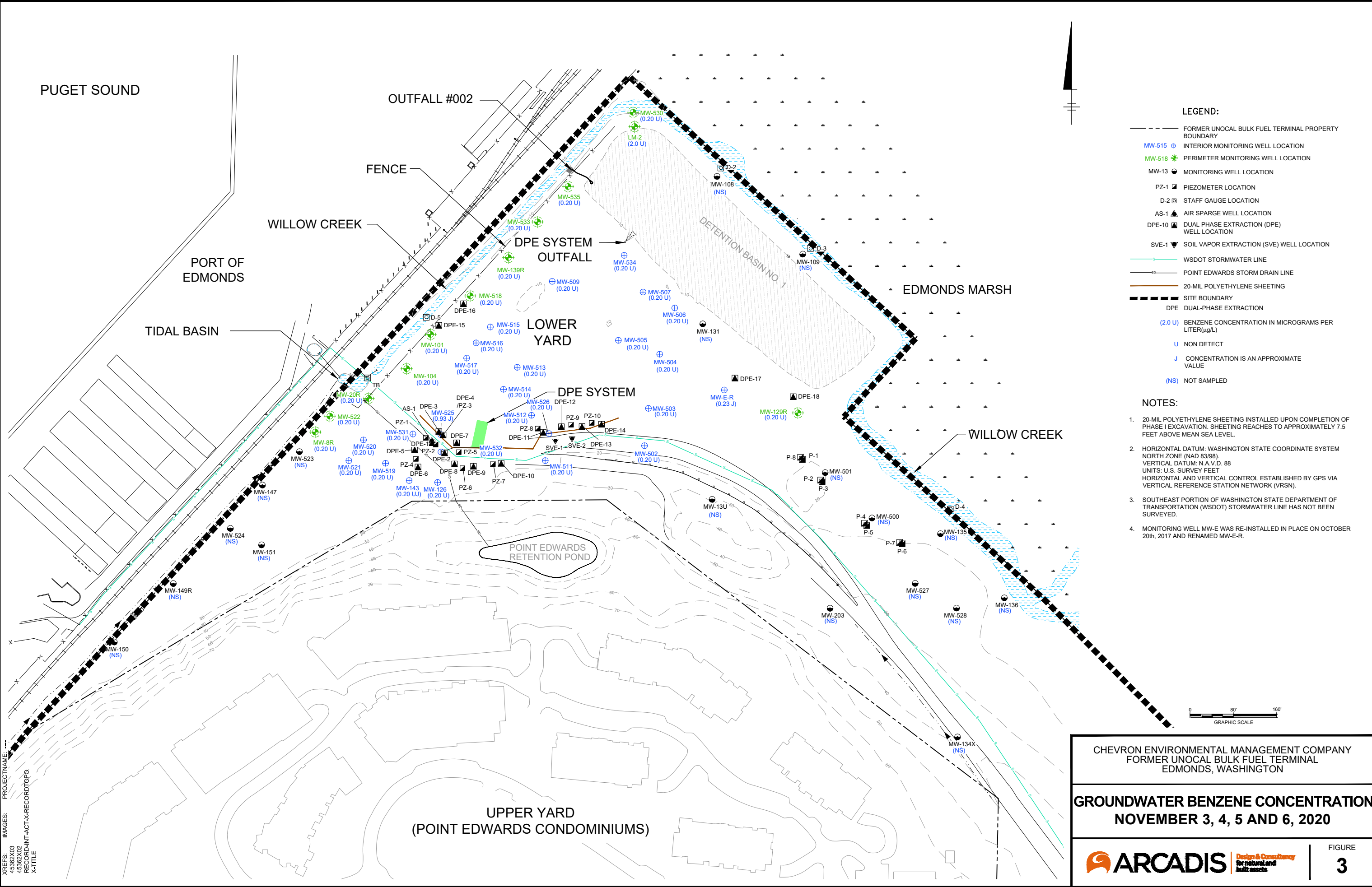
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER TPH CONCENTRATION
 NOVEMBER 3, 4, 5 AND 6, 2020**

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FIGURE
2

CITY:\Recd\DIV\GROUP\Recd\ DB\Recd\ LD\Opt\ PIC\Opt\ PM\Recd\ TM\Opt\ LVR\Opt\ONE=OFF+REF+
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 IMAGES: 45362X03
 RECORD-INT-ACT-X-RECORD\TOPO
 X-TITLE



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
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 - AS-1 ▲ AIR SPARGE WELL LOCATION
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 - SVE-1 ▼ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - ▲ DPE DUAL-PHASE EXTRACTION
 - (0.20 U) BENZENE CONCENTRATION IN MICROGRAMS PER LITER(µg/L)
 - U NON DETECT
 - J CONCENTRATION IS AN APPROXIMATE VALUE
 - (NS) NOT SAMPLED

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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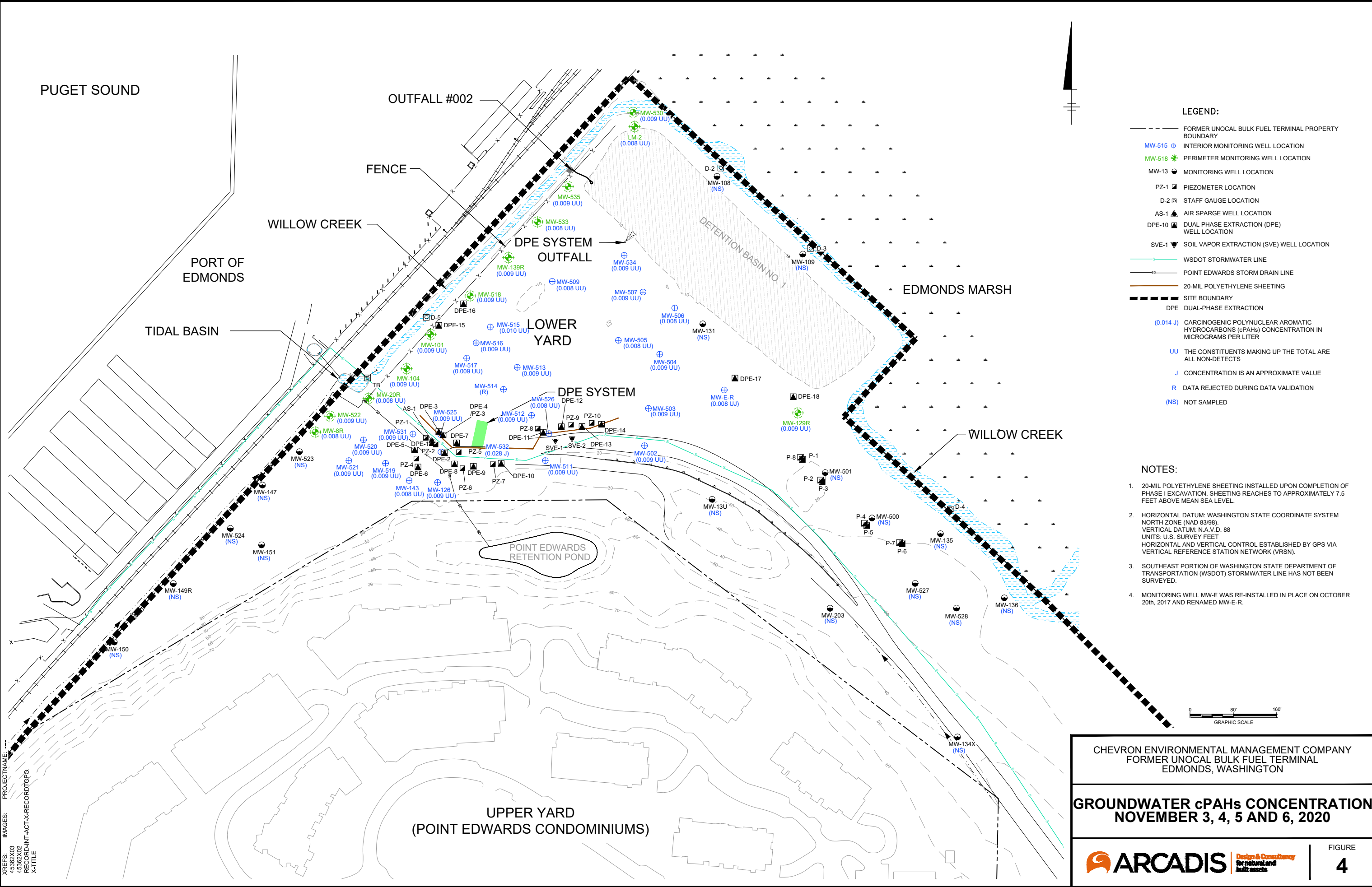
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER BENZENE CONCENTRATION
 NOVEMBER 3, 4, 5 AND 6, 2020**

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FIGURE
3

CITY:\Recd\DIV\GROUP\Recd\DB\Recd\LD\Opt\PIC\Opt\PM\Recd\TM\Opt\LYR\Opt\ONE\OFF+REF+
 C:\Users\p01041181M\360\Arcadis\AIA-CHEVRON CORPORATION\Project Files\Edmonds\Public Review Draft\20203069430101-DWG\G\G\W\202004-F05-c-PAHs.dwg LAYOUT: 5 SAVED: 1/18/2021 11:14 AM ACADVER: 23.1S (LMS TECH) PAGES: 1 PLOTTED: 1/18/2021 11:15 AM BY: ANANEYAKUMAR, PAVAN KUMAR



- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
 - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
 - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
 - MW-13 ⊕ MONITORING WELL LOCATION
 - PZ-1 ⊕ PIEZOMETER LOCATION
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 - AS-1 ⊕ AIR SPARGE WELL LOCATION
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 - SVE-1 ⊕ SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - WSDOT STORMWATER LINE
 - POINT EDWARDS STORM DRAIN LINE
 - 20-MIL POLYETHYLENE SHEETING
 - SITE BOUNDARY
 - DPE DUAL-PHASE EXTRACTION
 - (0.014 J) CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS (cPAHs) CONCENTRATION IN MICROGRAMS PER LITER
 - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
 - J CONCENTRATION IS AN APPROXIMATE VALUE
 - R DATA REJECTED DURING DATA VALIDATION
 - (NS) NOT SAMPLED

- NOTES:**
1. 20-MIL POLYETHYLENE SHEETING INSTALLED UPON COMPLETION OF PHASE I EXCAVATION. SHEETING REACHES TO APPROXIMATELY 7.5 FEET ABOVE MEAN SEA LEVEL.
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CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 FORMER UNOCAL BULK FUEL TERMINAL
 EDMONDS, WASHINGTON

**GROUNDWATER cPAHs CONCENTRATION
 NOVEMBER 3, 4, 5 AND 6, 2020**

ARCADIS Design & Consultancy
 for natural and built assets

FIGURE
4

APPENDIX D

Groundwater Monitoring Laboratory Analytical Reports and Chain of Custody Documentation





ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron c/o Arcadis
630 Plaza Drive
Suite 600
Highlands Ranch CO 80129

Report Date: March 17, 2020 14:18

Project: Edmonds Terminal

Account #: 10847
Group Number: 2091481
PO Number: 30005535
State of Sample Origin: WA

Electronic Copy To ARCADIS
Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS
Electronic Copy To Arcadis
Electronic Copy To Arcadis
Electronic Copy To Arcadis

Attn: Peter Campbell
Attn: Sam Miles
Attn: Ophelie Encelle
Attn: Ryan Brauchla
Attn: Kelsey Franz
Attn: Alexander Pink

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MW-126-W-200309 Grab Groundwater	03/09/2020 09:01	1276402
MW-143-W-200309 Grab Groundwater	03/09/2020 10:31	1276403
MW-502-W-200309 Grab Groundwater	03/09/2020 09:51	1276404
MW-505-W-200309 Grab Groundwater	03/09/2020 13:41	1276405
MW-507-W-200309 Grab Groundwater	03/09/2020 12:40	1276406
MW-509-W-200309 Grab Groundwater	03/09/2020 12:10	1276407
MW-515-W-200309 Grab Groundwater	03/09/2020 10:03	1276408
MW-516-W-200309 Grab Groundwater	03/09/2020 11:13	1276409
MW-516-W-200309MS Grab Groundwater	03/09/2020 11:14	1276410
MW-516-W-200309MSD Grab Groundwater	03/09/2020 11:14	1276411
MW-517-W-200309 Grab Groundwater	03/09/2020 13:13	1276412
MW-518-W-200309 Grab Groundwater	03/09/2020 09:40	1276413
MW-519-W-200309 Grab Groundwater	03/09/2020 11:41	1276414
MW-520-W-200309 Grab Groundwater	03/09/2020 13:01	1276415
MW-521-W-200309 Grab Groundwater	03/09/2020 13:51	1276416
MW-522-W-200309 Grab Groundwater	03/09/2020 09:10	1276417
DUP-1-WD-200309 Grab Groundwater	03/09/2020	1276418
QA-T-200309 NA Water	03/09/2020	1276419

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Edmonds Terminal
ELLE Group #: 2091481

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8270D SIM, GC/MS Semivolatiles**

Sample #s: 1276402, 1276405

Due to laboratory error the method blank associated with this samples was internalized incorrectly. Since target analytes are not detected in the sample, the data is reported.

ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons w/Si

Batch #: 200710014A (Sample number(s): 1276402-1276413 UNSPK: 1276409)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window:
DX DRO C12-C24 w/ SiGel

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: DX DRO C12-C24 w/ SiGel

Sample Description: MW-126-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276402
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 09:01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
Due to laboratory error the method blank associated with this samples was internalized incorrectly. Since target analytes are not detected in the sample, the data is reported.						
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 01:09	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 01:08	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WUAU026	03/17/2020 01:04	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	2	20073WUAU026	03/16/2020 08:45	Austin Robinson	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 00:17	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 00:16	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 21:01	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-143-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276403
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 10:31

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 01:33	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 01:32	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/13/2020 14:58	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 00:41	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 00:40	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 21:24	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-502-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276404
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 09:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 01:57	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 01:56	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/13/2020 15:25	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 01:04	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 01:03	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 21:47	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-505-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276405
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 13:41

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
SW-846 8260C			ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
SW-846 8270D SIM			ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
Due to laboratory error the method blank associated with this samples was internalized incorrectly. Since target analytes are not detected in the sample, the data is reported.						
GC Volatiles						
ECY 97-602 NWTPH-Gx			ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
ECY 97-602 NWTPH-Dx modified			ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 02:21	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 02:20	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAW026	03/17/2020 01:34	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	2	20073WAW026	03/16/2020 08:45	Austin Robinson	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 01:27	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 01:26	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 22:09	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-507-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276406
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 12:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 02:45	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 02:44	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 16:33	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 01:51	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 01:50	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 22:32	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-509-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276407
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 12:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 03:09	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 03:08	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 17:00	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 02:14	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 02:13	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 22:55	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-515-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276408
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 10:03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.06	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.06	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.06	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.06	1
14244	Chrysene	218-01-9	N.D.	0.01	0.06	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.08	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.06	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	48	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	270	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 03:33	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 03:32	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 17:27	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/12/2020 02:38	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/12/2020 02:37	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 23:17	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-516-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276409
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 11:13

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.08	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 10:49	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 10:48	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/13/2020 11:51	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 19:58	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 19:57	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/13/2020 23:40	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-516-W-200309MS Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276410
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 11:14

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	21	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	1	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	1	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	1	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	1	0.01	0.05	1
14244	Chrysene	218-01-9	0.9	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	1	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	1	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	1,200	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	270	50	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	280	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 11:14	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 11:13	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 15:13	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 20:22	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 20:21	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/14/2020 00:03	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-516-W-200309MSD Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276411
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 11:14

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	21	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	1	0.01	0.07	1
14244	Benzo(a)pyrene	50-32-8	1	0.01	0.07	1
14244	Benzo(b)fluoranthene	205-99-2	1	0.01	0.07	1
14244	Benzo(k)fluoranthene	207-08-9	1	0.01	0.07	1
14244	Chrysene	218-01-9	1	0.01	0.07	1
14244	Dibenz(a,h)anthracene	53-70-3	1	0.03	0.09	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	1	0.01	0.07	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	1,200	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	180	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 11:38	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 11:37	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/13/2020 12:44	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 20:46	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 20:45	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/14/2020 00:25	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-517-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276412
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 13:13

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	D200724AA	03/13/2020 03:57	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	D200724AA	03/13/2020 03:56	Kevin A Sposito	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 17:53	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 21:09	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 21:08	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/14/2020 00:48	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-518-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276413
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 09:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	430	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	45	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 13:14	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 13:13	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 18:20	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 21:33	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 21:32	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710014A	03/14/2020 01:11	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710014A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-519-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276414
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 11:41

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 13:38	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 13:37	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 18:47	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 21:57	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 21:56	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710015A	03/14/2020 03:27	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710015A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-520-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276415
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 13:01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 14:03	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 14:02	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 19:13	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 22:20	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 22:19	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710015A	03/14/2020 03:49	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710015A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-521-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276416
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 13:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 14:27	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 14:26	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 19:40	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 22:43	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 22:42	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710015A	03/14/2020 04:12	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710015A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-522-W-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276417
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020 09:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 14:51	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 14:50	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 20:06	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 23:06	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 23:05	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710015A	03/14/2020 04:34	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710015A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-200309 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276418
ELLE Group #: 2091481
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	440	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 15:15	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 15:14	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20071WAS026	03/15/2020 20:33	William H Saadeh	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20071WAS026	03/12/2020 09:30	Bojan Milinic	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 23:53	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 23:52	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200710015A	03/14/2020 04:57	Bridget Kovacs	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200710015A	03/11/2020 17:04	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: QA-T-200309 NA Water
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1276419
ELLE Group #: 2091481
Matrix: Water

Project Name: Edmonds Terminal

Submittal Date/Time: 03/10/2020 10:35
Collection Date/Time: 03/09/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC Volatiles						
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 10:26	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 10:25	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20071B20A	03/11/2020 19:35	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20071B20A	03/11/2020 19:34	Marie D Beamenderfer	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: D200724AA	Sample number(s): 1276402-1276408,1276412		
Benzene	N.D.	0.2	1
Batch number: Z200732AA	Sample number(s): 1276409-1276411,1276413-1276419		
Benzene	N.D.	0.2	1
Batch number: 20071WAS026	Sample number(s): 1276403-1276404,1276406-1276418		
Benzo(a)anthracene	0.01 J	0.01	0.05
Benzo(a)pyrene	N.D.	0.01	0.05
Benzo(b)fluoranthene	0.01 J	0.01	0.05
Benzo(k)fluoranthene	N.D.	0.01	0.05
Chrysene	0.01 J	0.01	0.05
Dibenz(a,h)anthracene	N.D.	0.02	0.07
Indeno(1,2,3-cd)pyrene	0.02 J	0.01	0.05
Batch number: 20073WAU026	Sample number(s): 1276402,1276405		
Benzo(a)anthracene	N.D.	0.01	0.05
Benzo(a)pyrene	N.D.	0.01	0.05
Benzo(b)fluoranthene	N.D.	0.01	0.05
Benzo(k)fluoranthene	N.D.	0.01	0.05
Chrysene	N.D.	0.01	0.05
Dibenz(a,h)anthracene	N.D.	0.02	0.07
Indeno(1,2,3-cd)pyrene	N.D.	0.01	0.05
Batch number: 20071B20A	Sample number(s): 1276402-1276419		
NWTPH-Gx water C7-C12	N.D.	19	250
Batch number: 200710014A	Sample number(s): 1276402-1276413		
DX DRO C12-C24 w/ SiGel	N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250
Batch number: 200710015A	Sample number(s): 1276414-1276418		
DX DRO C12-C24 w/ SiGel	N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
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*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D200724AA Benzene	Sample number(s): 1276402-1276408,1276412				97		80-120		
Batch number: Z200732AA Benzene	Sample number(s): 1276409-1276411,1276413-1276419				104		80-120		
Batch number: 20071WAS026	Sample number(s): 1276403-1276404,1276406-1276418								
Benzo(a)anthracene	1.00	0.976			98		61-117		
Benzo(a)pyrene	1.00	0.960			96		63-135		
Benzo(b)fluoranthene	1.00	0.988			99		66-138		
Benzo(k)fluoranthene	1.00	0.970			97		58-142		
Chrysene	1.00	0.891			89		61-117		
Dibenz(a,h)anthracene	1.00	0.931			93		51-139		
Indeno(1,2,3-cd)pyrene	1.00	1.03			103		56-147		
Batch number: 20073WUAU026	Sample number(s): 1276402,1276405								
Benzo(a)anthracene	1.00	0.818			82		61-117		
Benzo(a)pyrene	1.00	0.819			82		63-135		
Benzo(b)fluoranthene	1.00	0.811			81		66-138		
Benzo(k)fluoranthene	1.00	0.820			82		58-142		
Chrysene	1.00	0.827			83		61-117		
Dibenz(a,h)anthracene	1.00	0.816			82		51-139		
Indeno(1,2,3-cd)pyrene	1.00	0.857			86		56-147		
Batch number: 20071B20A NWTPH-Gx water C7-C12	Sample number(s): 1276402-1276419				98		64-131		
Batch number: 200710014A DX DRO C12-C24 w/ SiGel	Sample number(s): 1276402-1276413				39		10-115		
Batch number: 200710015A DX DRO C12-C24 w/ SiGel	Sample number(s): 1276414-1276418				34	36	10-115	4	20

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
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*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max	
Batch number: Z200732AA Benzene	Sample number(s): 1276409-1276411,1276413-1276419 UNSPK: 1276409										
	N.D.	20	20.78	20	20.65	104	103	80-120	1	30	
	ug/l	ug/l	ug/l	ug/l	ug/l						
Batch number: 20071WAS026	Sample number(s): 1276403-1276404,1276406-1276418 UNSPK: 1276409										
Benzo(a)anthracene	N.D.	1.02	1.02	1.30	1.21	100	93	61-117	17	30	
Benzo(a)pyrene	N.D.	1.02	0.972	1.30	1.19	95	92	63-135	20	30	
Benzo(b)fluoranthene	N.D.	1.02	1.08	1.30	1.27	105	97	66-138	16	30	
Benzo(k)fluoranthene	N.D.	1.02	1.01	1.30	1.28	99	98	58-142	23	30	
Chrysene	N.D.	1.02	0.919	1.30	1.08	90	83	61-117	16	30	
Dibenz(a,h)anthracene	N.D.	1.02	0.974	1.30	1.05	95	81	51-139	7	30	
Indeno(1,2,3-cd)pyrene	N.D.	1.02	1.07	1.30	1.15	105	88	56-147	7	30	
	ug/l	ug/l	ug/l	ug/l	ug/l						
Batch number: 20071B20A NWTPH-Gx water C7-C12	Sample number(s): 1276402-1276419 UNSPK: 1276409										
	N.D.	1100	1227.51	1100	1231.08	112	112	80-120	0	30	
	ug/l	ug/l	ug/l	ug/l	ug/l						
Batch number: 200710014A DX DRO C12-C24 w/ SiGel	Sample number(s): 1276402-1276413 UNSPK: 1276409										
	N.D.	666.72	267.09	625.05	182.47	40	29*	30-115	38*	20	

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: D200724AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1276402	98	93	102	93
1276403	98	95	103	93
1276404	98	91	101	91
1276405	99	97	101	92
1276406	99	95	101	92
1276407	97	95	101	89
1276408	100	97	102	92
1276412	100	93	100	90
Blank	98	95	101	91
LCS	96	96	104	97

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: D200724AA

Limits: 80-120 80-120 80-120 80-120

Analysis Name: Benzene
Batch number: Z200732AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1276409	108	103	99	92
1276410	103	100	100	104
1276411	103	101	101	104
1276413	108	103	98	98
1276414	108	102	98	92
1276415	108	102	99	93
1276416	110	103	98	90
1276417	109	103	100	91
1276418	109	103	98	98
1276419	107	102	99	92
Blank	106	102	99	93
LCS	102	100	101	102
MS	103	100	100	104
MSD	103	101	101	104
Limits:	80-120	80-120	80-120	80-120

Analysis Name: SIM SVOAs 8270D MINI
Batch number: 20071WAS026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
1276403	76	71	57
1276404	81	57	55
1276406	78	74	75
1276407	80	49	68
1276408	89	79	67
1276409	87	78	87
1276410	82	82	69
1276411	75	77	68
1276412	81	77	76
1276413	85	69	80
1276414	81	72	78
1276415	84	77	72
1276416	93	75	75
1276417	70	64	65
1276418	102	72	88
Blank	61	61	44
LCS	88	82	86

*- Outside of specification

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Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: SIM SVOAs 8270D MINI
Batch number: 20071WAS026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
MS	82	82	69
MSD	75	77	68
Limits:	34-125	10-138	15-121

Analysis Name: SIM SVOAs 8270D MINI
Batch number: 20073WAU026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
1276402	101	77	74
1276405	102	24	67
Blank	49	38	38
LCS	93	79	79
Limits:	34-125	10-138	15-121

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 20071B20A

	Trifluorotoluene-F
1276402	83
1276403	84
1276404	81
1276405	77
1276406	83
1276407	72
1276408	82
1276409	83
1276410	86
1276411	95
1276412	78
1276413	81
1276414	80
1276415	81
1276416	83
1276417	78
1276418	79
1276419	80
Blank	84
LCS	89
MS	86
MSD	95

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 14:18

Group Number: 2091481

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 20071B20A

Limits: 50-150

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200710014A

	Orthoterphenyl	Capric Acid
1276402	71	0
1276403	80	0
1276404	69	0
1276405	72	0
1276406	69	0
1276407	67	0
1276408	73	0
1276409	70	0
1276410	71	0
1276411	56	0
1276412	67	0
1276413	77	0
Blank	65	0
LCS	68	0
MS	71	0
MSD	56	0

Limits: 50-150 0-1

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200710015A

	Orthoterphenyl	Capric Acid
1276414	68	0
1276415	78	0
1276416	77	0
1276417	78	0
1276418	73	0
Blank	68	0
LCS	66	0
LCSD	70	0

Limits: 50-150 0-1

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964

For Lancaster Laboratories use only
 Group # 2091481 Sample # 1276402-19
 Instructions on reverse side correspond with circled numbers.

1 Client Information Facility # <u>Edmonds Terminal</u> WBS Site Address <u>11720 WNOCO Rd, Edmonds WA</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant <u>Arcadis</u> Consultant/Office <u>Seattle 1100 Olive Way, Suite 800, Seattle</u> Consultant Project Mgr. <u>Sam Miles</u> Consultant Phone # _____ Sampler <u>Daniel Gilbert, Kiley Zaubi, Brett Tobias, Ryan Branch</u>	4 Matrix Sediment <input type="checkbox"/> <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Surface <input type="checkbox"/> Oil <input type="checkbox"/> Air <input type="checkbox"/>	5 Analyses Requested Total Number of Containers <u>10</u> BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan _____ Oxygenates _____ NWTPH GX <u>GRO</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method _____ WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>BENZENE 8260</u> <u>CPAHs 8270 SEM</u>
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SCR #: _____

- Results in Dry Weight
- J value reporting needed
- Must meet lowest detection limits possible for 8260 compounds
- 8021 MTBE Confirmation
- Confirm MTBE + Naphthalene
- Confirm highest hit by 8260
- Confirm all hits by 8260
- Run _____ oxy's on highest hit
- Run _____ oxy's on all hits

Sample Identification	Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE 8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead Total	Diss.	Method	WAVPH	WAEPH	
	Date	Time																				
MW-126	03/09	901	X			X		10						X	X							
MW-143		1031	X											X	X							
MW-502	9/51	0951	X											X	X							
MW- 502 505	1341		X											X	X							
MW-507		1240	X											X	X							
MW-509		1210	X											X	X							
MW-515		1003	X											X	X							
MW-516		1113	X											X	X							
MW-516 MS		1114	X											X	X							
MW-516 MSD		1114	X											X	X							
MW-517		1313	X											X	X							
MW-518		0940	X											X	X							
MW-519		1141	X											X	X							

6 Remarks

* Use Standard SGC

Rush 5 day turnaround

MW-505 sampled at 1341.

MW-502 sampled at 0951.

7 Turnaround Time Requested (TAT) (please circle) Standard <input checked="" type="radio"/> 5 day 4 day 72 hour 48 hour 24 hour	Relinquished by <u>Kiley Zaubi</u> ^{KEZ} Date <u>3-9-2020</u> Time <u>1500</u>	Received by <u>FedEx</u> Date <u>3-9-2020</u> Time <u>1630</u>	9
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)	Relinquished by Commercial Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____	Received by <u>[Signature]</u> Date <u>3/10/2020</u> Time <u>1035</u>	Temperature Upon Receipt <u>2.1 13.4 °C</u> Custody Seals Intact? <input checked="" type="checkbox"/> Yes No

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964

For Lancaster Laboratories use only
 Group # 2091481 Sample # 1276402-19
Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information				4 Matrix				5 Analyses Requested																																																																																																																																					
Facility # <u>Edmonds Terminal</u>		WBS		Sediment <input type="checkbox"/>		Ground <input checked="" type="checkbox"/>		Surface <input type="checkbox"/>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">BTEX + MTBE</td> <td colspan="2">8021</td> <td colspan="2">8260</td> <td colspan="2">Naphth</td> <td colspan="2">Oxygenates</td> <td colspan="2">NWTPH GX</td> <td colspan="2">NWTPH DX</td> <td colspan="2">Silica Gel Cleanup <input checked="" type="checkbox"/></td> <td colspan="2">Lead</td> <td colspan="2">Total</td> <td colspan="2">Diss.</td> <td colspan="2">Method</td> </tr> <tr> <td colspan="2">8260 full scan</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"><u>6RC</u></td> <td colspan="2"><input checked="" type="checkbox"/></td> <td colspan="2"></td> <td colspan="2">WAVPH <input type="checkbox"/></td> <td colspan="2">WAEPH <input type="checkbox"/></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>												BTEX + MTBE		8021		8260		Naphth		Oxygenates		NWTPH GX		NWTPH DX		Silica Gel Cleanup <input checked="" type="checkbox"/>		Lead		Total		Diss.		Method		8260 full scan										<u>6RC</u>		<input checked="" type="checkbox"/>				WAVPH <input type="checkbox"/>		WAEPH <input type="checkbox"/>																																																																													
BTEX + MTBE		8021		8260		Naphth		Oxygenates														NWTPH GX		NWTPH DX		Silica Gel Cleanup <input checked="" type="checkbox"/>		Lead		Total		Diss.		Method																																																																																																											
8260 full scan																						<u>6RC</u>		<input checked="" type="checkbox"/>				WAVPH <input type="checkbox"/>		WAEPH <input type="checkbox"/>																																																																																																															
Site Address <u>11720 unoco Rd Edmonds WA</u>				Potable <input type="checkbox"/>		NPDES <input type="checkbox"/>		Air <input type="checkbox"/>																																																																																																																																					
Chevron PM <u>KM Jolitz</u>		Lead Consultant <u>Arcadis</u>		Oil <input type="checkbox"/>		Total Number of Containers																																																																																																																																							
Consultant/Office <u>1100 olive way, suite 800, Seattle, WA</u>				Soil <input type="checkbox"/>		Water																																																																																																																																							
Consultant Project Mgr. <u>Sam Miles</u>				Composite <input type="checkbox"/>		Grab																																																																																																																																							
Consultant Phone #				Grab		Composite																																																																																																																																							
Sampler				Soil		Water																																																																																																																																							

- Results in Dry Weight
- J value reporting needed
- Must meet lowest detection limits possible for 8260 compounds
- 8021 MTBE Confirmation
- Confirm MTBE + Naphthalene
- Confirm highest hit by 8260
- Confirm all hits by 8260
- Run ___ oxy's on highest hit
- Run ___ oxy's on all hits

2 Sample Identification		Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH		
Date	Time																								
<u>MW-520</u>	<u>03/09</u>	<u>1301</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>10</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>MW-521</u>	<u>1</u>	<u>1351</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>10</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
MW-521 <u>MW-522</u>	<u>1</u>	<u>1410</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>10</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>Dup-1</u>	<u>1</u>	<u>1</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>10</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>TRIP BLANK</u>	<u>1</u>	<u>1</u>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>3</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									

6 **Remarks**

* use standard SGC

Rush 5 day Turnaround

7 Turnaround Time Requested (TAT) (please circle) Standard <input type="checkbox"/> 5 day <input checked="" type="checkbox"/> 4 day <input type="checkbox"/> 72 hour <input type="checkbox"/> 48 hour <input type="checkbox"/> 24 hour <input type="checkbox"/>			Relinquished by		Date	Time	Received by		Date	Time
			<u>Kiley Zauri</u>		<u>3-9-2020</u>	<u>1500</u>	<u>FEDEx</u>		<u>3-9-2020</u>	<u>1630</u>
8 Data Package Options (please circle if required) Type I - Full <input type="checkbox"/> Type VI (Raw Data) <input type="checkbox"/>			Relinquished by Commercial Carrier:		Received by		Date	Time		
			UPS <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other <input type="checkbox"/>		<u>[Signature]</u>		<u>3/10/2020</u>	<u>1635</u>		
			Temperature Upon Receipt		Custody Seals Intact?					
			<u>22.2 / 34 °C</u>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					



Client: CHEVRON NORTHWEST REGION

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Date: 03/10/2020
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	Total Trip Blank Qty:	3
Samples Chilled:	Yes	Trip Blank Type:	HCl
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	No		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jessenia Colon Martinez

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	3.4	DT	Wet	Y	Bagged	N
2	DT146	2.2	DT	Wet	Y	Bagged	N
3	DT146	3.1	DT	Wet	Y	Bagged	N

Samples Not Intact Details

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments
MW-126	40 ml glass vial (GC/MS) - HCl	1	N	
MW-516	40 ml glass vial (GC/MS) - HCl	1	N	
MW-516 MS/MSD	40 ml glass vial (GC/MS) - HCl	1	N	

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
MW-505	3/09/2020 13:40	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron c/o Arcadis
630 Plaza Drive
Suite 600
Highlands Ranch CO 80129

Report Date: March 17, 2020 19:13


Project: Edmonds Terminal

Account #: 10847
Group Number: 2091718
PO Number: 30005535
State of Sample Origin: WA

Electronic Copy To ARCADIS
Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS
Electronic Copy To Arcadis
Electronic Copy To Arcadis
Electronic Copy To Arcadis

Attn: Peter Campbell
Attn: Sam Miles
Attn: Ophelie Encelle
Attn: Ryan Brauchla
Attn: Kelsey Franz
Attn: Alexander Pink

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MW-101-W-200310 Grab Groundwater	03/10/2020 11:52	1277300
MW-139R-W-200310 Grab Groundwater	03/10/2020 09:30	1277301
MW-20R-W-200310 Grab Groundwater	03/10/2020 10:42	1277302
MW-503-W-200310 Grab Groundwater	03/10/2020 09:51	1277303
MW-503-W-200310-MS Grab Groundwater	03/10/2020 09:54	1277304
MW-503-W-200310-MSD Grab Groundwater	03/10/2020 09:55	1277305
MW-504-W-200310 Grab Groundwater	03/10/2020 11:01	1277306
MW-506-W-200310 Grab Groundwater	03/10/2020 12:01	1277307
MW-511-W-200310 Grab Groundwater	03/10/2020 13:11	1277308
MW-512-W-200310 Grab Groundwater	03/10/2020 12:00	1277309
MW-513-W-200310 Grab Groundwater	03/10/2020 13:32	1277310
DUP-2-WD-200310 Grab Groundwater	03/10/2020	1277311
MW-514-W-200310 Grab Groundwater	03/10/2020 10:50	1277312
MW-8R-W-200310 Grab Groundwater	03/10/2020 09:22	1277313
QA-T-200310 NA Water	03/10/2020	1277314

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Edmonds Terminal
ELLE Group #: 2091718

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8270D SIM. GC/MS Semivolatiles****Sample #s: 1277308**

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken:
The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect.
The reported data is from the initial analysis of the sample.

Sample #s: 1277310, 1277313

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken:
The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect.
The reported data is from the initial analysis of the sample.

ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons w/Si**Batch #: 200720012A (Sample number(s): 1277300-1277311 UNSPK: 1277303)**

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window:
DX DRO C12-C24 w/ SiGel

Sample Description: MW-101-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277300
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 11:52

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	420	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 15:39	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 15:38	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 14:39	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 14:38	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 14:37	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 01:28	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-139R-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277301
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 09:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 16:03	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 16:02	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 15:09	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 15:02	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 15:01	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 01:51	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-20R-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277302
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 10:42

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 16:27	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 16:26	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 15:40	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 15:26	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 15:25	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 02:14	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-503-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277303
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 09:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 08:04	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 08:03	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 13:08	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 15:49	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 15:48	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 02:36	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-503-W-200310-MS Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277304
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 09:54

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	20	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	0.9	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	0.9	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	0.9	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	0.9	0.01	0.05	1
14244	Chrysene	218-01-9	0.9	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	0.8	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	0.9	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	1,200	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	170	47	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 08:27	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 08:26	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 13:38	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 16:13	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 16:12	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 02:59	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-503-W-200310-MSD Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277305
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 09:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	21	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	0.9	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	0.9	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	1	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	0.9	0.01	0.05	1
14244	Chrysene	218-01-9	0.9	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	0.8	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	0.9	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	1,200	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	190	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 08:49	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 08:48	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 14:09	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 16:36	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 16:35	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 03:22	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-504-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277306
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 11:01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	48	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 16:52	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 16:51	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 16:10	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 17:00	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 16:59	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 03:44	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-506-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277307
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 12:01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 17:16	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 17:15	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 16:41	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 17:23	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 17:22	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 04:07	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-511-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277308
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 13:11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.						
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 17:40	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 17:39	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 19:26	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 17:47	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 17:46	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 04:30	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-512-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277309
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 12:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200732AA	03/13/2020 18:04	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200732AA	03/13/2020 18:03	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 19:57	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 18:33	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 18:32	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 04:52	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-513-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277310
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 13:32

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	0.01 J	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	0.01 J	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
<p>The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.</p>						
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	48	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 09:11	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 09:10	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 20:27	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 18:57	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 18:56	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 05:15	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277311
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
SW-846 8260C			ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
SW-846 8270D SIM			ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
ECY 97-602 NWTPH-Gx			ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	410	19	250	1
GC Petroleum Hydrocarbons w/Si						
ECY 97-602 NWTPH-Dx modified			ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 09:33	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 09:32	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 20:57	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 19:21	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 19:20	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720012A	03/17/2020 05:38	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720012A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-514-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277312
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 10:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 09:55	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 09:54	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 21:27	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 19:44	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 19:43	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720013A	03/16/2020 23:12	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720013A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-8R-W-200310 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277313
ELLE Group #: 2091718
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020 09:22

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.						
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 10:17	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 10:16	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20072WAC026	03/13/2020 21:58	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20072WAC026	03/12/2020 20:05	Laura Duquette	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 20:08	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 20:07	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720013A	03/16/2020 23:35	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720013A	03/12/2020 17:44	Laura Duquette	1

*=This limit was used in the evaluation of the final result

Sample Description: QA-T-200310 NA Water
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: GW 1277314
ELLE Group #: 2091718
Matrix: Water

Project Name: Edmonds Terminal

Submission Date/Time: 03/11/2020 10:44
Collection Date/Time: 03/10/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
13130	Benzene	71-43-2	N.D.	0.2 ug/l	1 ug/l	1
GC Volatiles						
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19 ug/l	250 ug/l	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 07:42	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 07:41	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20072A20A	03/12/2020 14:15	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20072A20A	03/12/2020 14:14	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: F200761AA Benzene	Sample number(s): 1277303-1277305,1277310-1277314 N.D.	0.2	1
Batch number: Z200732AA Benzene	Sample number(s): 1277300-1277302,1277306-1277309 N.D.	0.2	1
Batch number: 20072WAC026 Benzo(a)anthracene	Sample number(s): 1277300-1277313 N.D.	0.01	0.05
Benzo(a)pyrene	N.D.	0.01	0.05
Benzo(b)fluoranthene	N.D.	0.01	0.05
Benzo(k)fluoranthene	N.D.	0.01	0.05
Chrysene	N.D.	0.01	0.05
Dibenz(a,h)anthracene	N.D.	0.02	0.07
Indeno(1,2,3-cd)pyrene	N.D.	0.01	0.05
Batch number: 20072A20A NWTPH-Gx water C7-C12	Sample number(s): 1277300-1277314 N.D.	19	250
Batch number: 200720012A DX DRO C12-C24 w/ SiGel	Sample number(s): 1277300-1277311 N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250
Batch number: 200720013A DX DRO C12-C24 w/ SiGel	Sample number(s): 1277312-1277313 N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: F200761AA Benzene	Sample number(s): 1277303-1277305,1277310-1277314 20	20.67			103		80-120		
Batch number: Z200732AA Benzene	Sample number(s): 1277300-1277302,1277306-1277309 20	20.72			104		80-120		
		ug/l	ug/l	ug/l					
Batch number: 20072WAC026	Sample number(s): 1277300-1277313								

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzo(a)anthracene	1.00	0.889			89		61-117		
Benzo(a)pyrene	1.00	0.972			97		63-135		
Benzo(b)fluoranthene	1.00	0.955			95		66-138		
Benzo(k)fluoranthene	1.00	0.963			96		58-142		
Chrysene	1.00	0.918			92		61-117		
Dibenz(a,h)anthracene	1.00	0.975			98		51-139		
Indeno(1,2,3-cd)pyrene	1.00	0.991			99		56-147		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 20072A20A NWTPH-Gx water C7-C12	Sample number(s): 1277300-1277314								
	1100	1067.99			97		64-131		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 200720012A DX DRO C12-C24 w/ SiGel	Sample number(s): 1277300-1277311								
	600.05	255.07			43		10-115		
Batch number: 200720013A DX DRO C12-C24 w/ SiGel	Sample number(s): 1277312-1277313								
	600.15	192.39	600.15	230.04	32	38	10-115	18	20

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max	
Batch number: F200761AA Benzene	Sample number(s): 1277303-1277305,1277310-1277314 UNSPK: 1277303										
	N.D.	20	20.24	20	20.89	101	104	80-120	3	30	
	ug/l	ug/l	ug/l	ug/l	ug/l						
Batch number: 20072WAC026 Benzo(a)anthracene	Sample number(s): 1277300-1277313 UNSPK: 1277303										
	N.D.	1.05	0.949	1.03	0.944	91	91	61-117	1	30	
	N.D.	1.05	0.915	1.03	0.925	88	90	63-135	1	30	
	N.D.	1.05	0.934	1.03	0.950	89	92	66-138	2	30	
	N.D.	1.05	0.880	1.03	0.895	84	87	58-142	2	30	
	N.D.	1.05	0.880	1.03	0.876	84	85	61-117	0	30	
	N.D.	1.05	0.826	1.03	0.845	79	82	51-139	2	30	
	N.D.	1.05	0.917	1.03	0.926	88	90	56-147	1	30	
	ug/l	ug/l	ug/l	ug/l	ug/l						
Batch number: 20072A20A NWTPH-Gx water C7-C12	Sample number(s): 1277300-1277314 UNSPK: 1277303										
	N.D.	1100	1188.73	1100	1221.86	108	111	80-120	3	30	

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 200720012A DX DRO C12-C24 w/ SiGel										
	ug/l	ug/l	ug/l	ug/l	ug/l					
Sample number(s): 1277300-1277311 UNSPK: 1277303	N.D.	632.96	171.63	607.34	188.57	27*	31	30-115	9	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: F200761AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1277303	101	98	98	96
1277304	100	98	100	98
1277305	100	97	100	97
1277310	102	98	100	97
1277311	102	97	99	100
1277312	101	98	99	98
1277313	101	99	99	97
1277314	102	97	99	95
Blank	102	97	98	96
LCS	99	99	100	98
MS	100	98	100	98
MSD	100	97	100	97
Limits:	80-120	80-120	80-120	80-120

Analysis Name: Benzene
Batch number: Z200732AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1277300	109	102	99	101
1277301	110	104	100	94
1277302	109	105	100	92
1277306	109	103	100	93
1277307	108	103	100	93
1277308	111	104	99	91
1277309	111	105	99	91
Blank	106	102	99	93
LCS	102	100	101	102

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: Z200732AA

Limits: 80-120 80-120 80-120 80-120

Analysis Name: SIM SVOAs 8270D MINI
Batch number: 20072WAC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
1277300	101	63	91
1277301	98	51	70
1277302	95	52	60
1277303	98	80	70
1277304	92	82	56
1277305	79	85	79
1277306	100	30	66
1277307	92	66	63
1277308	94	75	60
1277309	85	78	65
1277310	83	41	64
1277311	74	59	80
1277312	82	38	62
1277313	81	79	63
Blank	91	73	73
LCS	96	88	80
MS	92	82	56
MSD	79	85	79

Limits: 34-125 10-138 15-121

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 20072A20A

	Trifluorotoluene-F
1277300	78
1277301	76
1277302	78
1277303	76
1277304	89
1277305	92
1277306	79
1277307	78
1277308	82
1277309	74
1277310	79
1277311	77
1277312	81

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 20072A20A

	Trifluorotoluene-F
1277313	76
1277314	77
Blank	79
LCS	77
MS	89
MSD	92

Limits: 50-150

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200720012A

	Orthoterphenyl	Capric Acid
1277300	62	0
1277301	63	0
1277302	66	0
1277303	69	0
1277304	58	0
1277305	62	0
1277306	66	0
1277307	78	0
1277308	68	0
1277309	68	0
1277310	63	0
1277311	74	0
Blank	65	0
LCS	65	0
MS	58	0
MSD	62	0

Limits: 50-150 0-1

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200720013A

	Orthoterphenyl	Capric Acid
1277312	68	0
1277313	64	0
Blank	61	0
LCS	55	0
LCSD	66	0

Limits: 50-150 0-1

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/17/2020 19:13

Group Number: 2091718

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964 For Lancaster Laboratories use only Group # 209778 Sample # 127730-14
Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested																							
Facility # <u>WBS</u>		Site Address <u>Edmonds Terminal</u>		<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air	<input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil	Total Number of Containers BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan	Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/>	Benzene 8260C CPAH 8270 SIM	Chevron PM <u>Kim Jolitz</u>		Lead Consultant <u>Sam Miles</u>		Consultant/Office <u>Arcadis</u>		Consultant Project Mgr. <u>Sam Miles</u>		Consultant Phone # <u>(206) 726-4720</u>		Sampler <u>Dan Gilbert, Ryan Branchler, Brett Tovin</u>												
2 Sample Identification		3 Collected							Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH		
Date	Time	Date	Time																												
MW-101	3/10/20	1152	X								X		10							X	X									X	X
MW-130R	3/10/20	0930	X								X		10							X	X									X	X
MW-20R	3/10/20	1042	X			X		10							X	X									X	X					
MW-503	3/10/20	0951	X			X		10							X	X									X	X					
MW-503-MS	3/10/20	0954	X			X		10							X	X									X	X					
MW-503-MSD	3/10/20	0955	X			X		10							X	X									X	X					
MW-504	3/10/20	1101	X			X		10							X	X									X	X					
MW-506	3/10/20	1201	X			X		10							X	X									X	X					
MW-511	3/10/20	1311	X			X		10							X	X									X	X					
MW-512	3/10/20	1200	X			X		10							X	X									X	X					
MW-513	3/10/20	1332	X			X		10							X	X									X	X					
DUP-2	3/10/20		X			X		10							X	X									X	X					
MW-514	3/10/20	1050	X			X		10							X	X									X	X					

- SCR #: _____
- Results in Dry Weight
 - J value reporting needed
 - Must meet lowest detection limits possible for 8260 compounds
 - 8021 MTBE Confirmation
 - Confirm MTBE + Naphthalene
 - Confirm highest hit by 8260
 - Confirm all hits by 8260
 - Run _____ oxy's on highest hit
 - Run _____ oxy's on all hits

6 Remarks			
Use standard SGC RUSH 5 day TAT			

Relinquished by _____ Date _____ Time _____	Received by _____ Date _____ Time _____
Relinquished by _____ Date _____ Time _____	Received by _____ Date _____ Time _____

Relinquished by Commercial Carrier: UPS _____ FedEx <u>✓</u> Other _____		Received by <u>MF</u>	Date <u>3/11/20</u>	Time <u>1044</u>
Temperature Upon Receipt <u>06/10°C</u>		Custody Seals Intact? <u>Yes</u>		

7 Turnaround Time Requested (TAT) (please circle)	
Standard <u>5 day</u> 4 day 72 hour 48 hour 24 hour	9
8 Data Package Options (please circle if required)	
Type I - Full Type VI (Raw Data)	9

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964 For Lancaster Laboratories use only Group # 2091718 Sample # 1277300-14
 Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested															
Facility # <u>WBS</u>		Site Address <u>Edmonds Terminal</u>		Sediment <input type="checkbox"/> Potable <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/>	Ground <input checked="" type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>	Surface <input type="checkbox"/> Air <input type="checkbox"/>	Total Number of Containers BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan <input type="checkbox"/> Oxygenates <input type="checkbox"/> NWTPH GX <input type="checkbox"/> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/>	Benzene 8260L PAH 8270 SIM	Chevron PM <u>Kim Jolitz</u>		Lead Consultant <u>Sam Miles</u>		Consultant/Office <u>Arcadis</u>		Consultant Project Mgr. <u>Sam Miles</u>		Consultant Phone # <u>(206) 726-4720</u>		Sampler <u>Dan Gilbert, Ryan Brauchle, Brett Tobin</u>				
2 Sample Identification			3 Collected						Soil <input type="checkbox"/>	Water <input type="checkbox"/>	Oil <input type="checkbox"/>	Total Number of Containers	BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/>	8260 full scan <input type="checkbox"/>	Oxygenates <input type="checkbox"/>	NWTPH GX <input type="checkbox"/>	NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/>	Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/>	WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/>	Benzene 8260L	PAH 8270 SIM		
Date	Time	Grab	Composite																				
<u>MW-8R</u>	<u>3/11/20</u>	<u>0922</u>	<input checked="" type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

- SCR #: _____
- Results in Dry Weight
 - J value reporting needed
 - Must meet lowest detection limits possible for 8260 compounds
 - 8021 MTBE Confirmation
 - Confirm MTBE + Naphthalene
 - Confirm highest hit by 8260
 - Confirm all hits by 8260
 - Run _____ oxy's on highest hit
 - Run _____ oxy's on all hits

6 Remarks

Use standard SGL RUSH Sdey TAT

MW-8R @ 0922

7 Turnaround Time Requested (TAT) (please circle) Standard <input checked="" type="radio"/> 5 day 4 day 72 hour 48 hour 24 hour	Relinquished by _____	Date _____	Time _____	Received by _____	Date _____	Time _____
	Relinquished by _____	Date _____	Time _____	Received by _____	Date _____	Time _____
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)	Relinquished by Commercial Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____			Received by _____	Date <u>3/11/20</u>	Time <u>10:14</u>
	Temperature Upon Receipt <u>0.6/0.8</u> °C			Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		



Client: EDMOUND TERMINAL

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Date: 03/11/2020
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	3
Samples Chilled:	Yes	Trip Blank Type:	HCI
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jessenia Colon Martinez

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* *All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT146	0.7	DT	Wet	Y	Bagged	N
2	DT146	0.6	DT	Wet	Y	Bagged	N
3	DT146	0.8	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron c/o Arcadis
630 Plaza Drive
Suite 600
Highlands Ranch CO 80129

Report Date: March 25, 2020 10:15

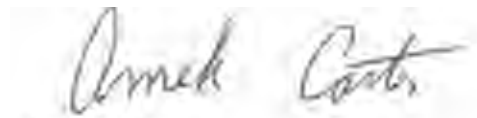
Project: Edmonds Terminal

Account #: 10847
Group Number: 2091930
PO Number: 30005535
State of Sample Origin: WA

Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS
Electronic Copy To Arcadis
Electronic Copy To Chevron c/o Arcadis
Electronic Copy To ARCADIS

Attn: Sam Miles
Attn: Ophelie Encelle
Attn: Daniel Gilbert
Attn: Kiley Zaubi
Attn: Peter Campbell

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MW-ER-W-200311 Grab Groundwater	03/11/2020 10:51	1278355
MW-129R-W-200311 Grab Groundwater	03/11/2020 11:41	1278356
MW-104-W-200311 Grab Groundwater	03/11/2020 09:21	1278357
LM-2-W-200311 Grab Groundwater	03/11/2020 13:31	1278358
MW-525-W-200311 Grab Groundwater	03/11/2020 10:30	1278359
MW-526-W-200311 Grab Groundwater	03/11/2020 09:30	1278360
MW-530-W-200311 Grab Groundwater	03/11/2020 12:52	1278361
MW-531-W-200311 Grab Groundwater	03/11/2020 11:30	1278362
MW-532-W-200311 Grab Groundwater	03/11/2020 12:20	1278363
MW-533-W-200311 Grab Groundwater	03/11/2020 09:12	1278364
MW-534-W-200311 Grab Groundwater	03/11/2020 10:22	1278365
MW-535-W-200311 Grab Groundwater	03/11/2020 11:13	1278366
DUP-4-WD-200311 Grab Groundwater	03/11/2020	1278367
QA-T-200311 NA Water	03/11/2020	1278368
DUP-3-WD-200311 Grab Groundwater	03/11/2020	1278369

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Edmonds Terminal
ELLE Group #: 2091930

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8260C, GC/MS Volatiles**

Sample #s: 1278355, 1278358

Reporting limits were raised due to sample foaming.

ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons w/Si

Batch #: 200720022A (Sample number(s): 1278355-1278359, 1278361-1278364)

The relative percent difference(s) for the following analyte(s) in the LCS/LCSD were outside acceptance windows: DX DRO C12-C24 w/ SiGel

Sample Description: MW-ER-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278355
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 10:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	2	10	10
Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles		ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	880	19	250	1
GC Petroleum Hydrocarbons w/Si		ECY 97-602 NWT PH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	86 J	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 12:33	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 12:32	Anita M Dale	10
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 08:56	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWT PH-Gx water C7-C12	ECY 97-602 NWT PH-Gx	1	20073A20A	03/13/2020 22:09	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/13/2020 22:08	Marie D Beamenderfer	1
12917	NWT PH-Dx water w/Si Gel	ECY 97-602 NWT PH-Dx modified	1	200720022A	03/18/2020 01:42	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWT PH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-129R-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278356
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 11:41

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.06	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.06	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.06	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.06	1
14244	Chrysene	218-01-9	N.D.	0.01	0.06	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.08	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.06	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	34 J	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	1,200	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	460	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 12:57	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 12:56	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 09:26	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/13/2020 22:33	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/13/2020 22:32	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 02:05	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-104-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278357
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 09:21

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.08	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	27 J	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 13:21	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 13:20	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 09:56	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/13/2020 22:56	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/13/2020 22:55	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 02:28	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: LM-2-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278358
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 13:31

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	2	10	10
Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	150	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 13:45	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 13:44	Anita M Dale	10
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 10:26	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/13/2020 23:20	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/13/2020 23:19	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 02:50	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-525-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278359
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 10:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 14:09	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 14:08	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 10:56	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/13/2020 23:43	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/13/2020 23:42	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 03:13	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-526-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278360
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 09:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	220 J	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	45	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 14:33	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 14:32	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 11:27	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/14/2020 00:07	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/14/2020 00:06	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200780018A	03/25/2020 02:21	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	2	200780018A	03/18/2020 15:20	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-530-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278361
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 12:52

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.08	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	47	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 14:57	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 14:56	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 11:57	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20073A20A	03/14/2020 00:31	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030C	1	20073A20A	03/14/2020 00:30	Marie D Beamenderfer	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 03:58	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-531-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278362
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 11:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 15:22	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 15:21	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 12:27	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 21:15	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 21:14	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 04:21	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-532-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278363
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 15:46	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 15:45	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 12:58	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 21:38	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 21:37	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 04:44	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-533-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278364
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 09:12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 16:10	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 16:09	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 13:28	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 22:02	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 22:01	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720022A	03/18/2020 05:06	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720022A	03/13/2020 08:45	Paul Friedman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-534-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278365
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 10:22

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	48	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	270	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	Z200762AA	03/16/2020 16:34	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	Z200762AA	03/16/2020 16:33	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 13:58	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 22:26	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 22:25	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720023A	03/17/2020 22:19	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720023A	03/13/2020 08:45	Bojan Milinic	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-535-W-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278366
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020 11:13

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260C	ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
		SW-846 8270D SIM	ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	0.2	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	0.1	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	0.2	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	0.2	0.01	0.05	1
14244	Chrysene	218-01-9	0.2	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	0.1	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	0.2	0.01	0.05	1
GC Volatiles						
		ECY 97-602 NWTPH-Gx	ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19	250	1
GC Petroleum Hydrocarbons w/Si						
		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	48	110	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	110	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 10:39	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 10:38	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 14:28	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 22:49	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 22:48	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720023A	03/17/2020 22:42	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720023A	03/13/2020 08:45	Bojan Milinic	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-4-WD-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278367
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
SW-846 8260C			ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
SW-846 8270D SIM			ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.06	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.06	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.06	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.06	1
14244	Chrysene	218-01-9	N.D.	0.01	0.06	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.09	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.06	1
GC Volatiles						
ECY 97-602 NWTPH-Gx			ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	47 J	19	250	1
GC Petroleum Hydrocarbons w/Si						
ECY 97-602 NWTPH-Dx modified			ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	560	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	250	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 11:01	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 11:00	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 14:59	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Oswaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 23:12	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 23:11	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200780018A	03/25/2020 02:44	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	2	200780018A	03/18/2020 15:20	Oswaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: QA-T-200311 NA Water
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278368
ELLE Group #: 2091930
Matrix: Water

Project Name: Edmonds Terminal

Submittal Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
13130	Benzene	71-43-2	N.D.	0.2 ug/l	1 ug/l	1
GC Volatiles						
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	19 ug/l	250 ug/l	1

Sample Comments

State of Washington Lab Certification No. C457

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 11:23	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 11:22	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 20:04	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 20:03	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-3-WD-200311 Grab Groundwater
Unocal Edmonds Terminal
11720 Unoco Road - Edmonds, WA

Chevron c/o Arcadis
ELLE Sample #: WW 1278369
ELLE Group #: 2091930
Matrix: Groundwater

Project Name: Edmonds Terminal

Submission Date/Time: 03/12/2020 10:18
Collection Date/Time: 03/11/2020

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
SW-846 8260C			ug/l	ug/l	ug/l	
13130	Benzene	71-43-2	N.D.	0.2	1	1
GC/MS Semivolatiles						
SW-846 8270D SIM			ug/l	ug/l	ug/l	
14244	Benzo(a)anthracene	56-55-3	N.D.	0.01	0.05	1
14244	Benzo(a)pyrene	50-32-8	N.D.	0.01	0.05	1
14244	Benzo(b)fluoranthene	205-99-2	N.D.	0.01	0.05	1
14244	Benzo(k)fluoranthene	207-08-9	N.D.	0.01	0.05	1
14244	Chrysene	218-01-9	N.D.	0.01	0.05	1
14244	Dibenz(a,h)anthracene	53-70-3	N.D.	0.02	0.07	1
14244	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.01	0.05	1
GC Volatiles						
ECY 97-602 NWTPH-Gx			ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	26 J	19	250	1
GC Petroleum Hydrocarbons w/Si						
ECY 97-602 NWTPH-Dx modified			ug/l	ug/l	ug/l	
12917	DX DRO C12-C24 w/ SiGel	n.a.	N.D.	46	100	1
12917	DX HRO C24-C40 w/ SiGel	n.a.	N.D.	100	260	1

Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13130	Benzene	SW-846 8260C	1	F200761AA	03/16/2020 11:45	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	F200761AA	03/16/2020 11:44	Anita M Dale	1
14244	SIM SVOAs 8270D MINI	SW-846 8270D SIM	1	20073WAH026	03/16/2020 15:29	Catherine E Bachman	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	20073WAH026	03/14/2020 13:20	Osvaldo R Sanchez	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	20076A20A	03/16/2020 23:36	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030C	1	20076A20A	03/16/2020 23:35	Jeremy C Giffin	1
12917	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	200720023A	03/17/2020 23:27	Timothy M Emrick	1
12924	Mini-Ext. DRO DX, Column SiGel	ECY 97-602 NWTPH-Dx 06/97	1	200720023A	03/13/2020 08:45	Bojan Milinic	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/25/2020 10:15

Group Number: 2091930

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: F200761AA Benzene	Sample number(s): 1278366-1278369 N.D.	0.2	1
Batch number: Z200762AA Benzene	Sample number(s): 1278355-1278365 N.D.	0.2	1
Batch number: 20073WAH026 Benzo(a)anthracene	Sample number(s): 1278355-1278367,1278369 N.D.	0.01	0.05
Benzo(a)pyrene	N.D.	0.01	0.05
Benzo(b)fluoranthene	N.D.	0.01	0.05
Benzo(k)fluoranthene	N.D.	0.01	0.05
Chrysene	N.D.	0.01	0.05
Dibenz(a,h)anthracene	N.D.	0.02	0.07
Indeno(1,2,3-cd)pyrene	N.D.	0.01	0.05
Batch number: 20073A20A NWTPH-Gx water C7-C12	Sample number(s): 1278355-1278361 N.D.	19	250
Batch number: 20076A20A NWTPH-Gx water C7-C12	Sample number(s): 1278362-1278369 N.D.	19	250
Batch number: 200720022A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278355-1278359,1278361-1278364 N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250
Batch number: 200720023A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278365-1278366,1278369 200	45	100
DX HRO C24-C40 w/ SiGel	120 J	100	250
Batch number: 200780018A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278360,1278367 N.D.	45	100
DX HRO C24-C40 w/ SiGel	N.D.	100	250

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F200761AA Benzene	Sample number(s): 1278366-1278369 20	20.67			103		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/25/2020 10:15

Group Number: 2091930

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Z200762AA Benzene	Sample number(s): 1278355-1278365								
	20	19.57			98		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 20073WAH026	Sample number(s): 1278355-1278367,1278369								
Benzo(a)anthracene	1.00	0.867	1.00	0.842	87	84	61-117	3	30
Benzo(a)pyrene	1.00	0.900	1.00	0.882	90	88	63-135	2	30
Benzo(b)fluoranthene	1.00	0.924	1.00	0.910	92	91	66-138	1	30
Benzo(k)fluoranthene	1.00	0.875	1.00	0.858	87	86	58-142	2	30
Chrysene	1.00	0.826	1.00	0.807	83	81	61-117	2	30
Dibenz(a,h)anthracene	1.00	0.909	1.00	0.914	91	91	51-139	0	30
Indeno(1,2,3-cd)pyrene	1.00	0.980	1.00	0.942	98	94	56-147	4	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 20073A20A NWTPH-Gx water C7-C12	Sample number(s): 1278355-1278361								
	1100	1094.61	1100	1075.13	100	98	64-131	2	30
Batch number: 20076A20A NWTPH-Gx water C7-C12	Sample number(s): 1278362-1278369								
	1100	1072.09	1100	1078.82	97	98	64-131	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 200720022A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278355-1278359,1278361-1278364								
	600.15	198.2	600.15	310.65	33	52	10-115	44*	20
Batch number: 200720023A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278365-1278366,1278369								
	600.15	244.73	600.15	220.88	41	37	10-115	10	20
Batch number: 200780018A DX DRO C12-C24 w/ SiGel	Sample number(s): 1278360,1278367								
	600.15	309.51	600.15	301.69	52	50	10-115	3	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: F200761AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1278366	102	97	99	97
1278367	102	97	99	97
1278368	101	96	99	96
1278369	101	97	100	97

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/25/2020 10:15

Group Number: 2091930

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Benzene
Batch number: F200761AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	102	97	98	96
LCS	99	99	100	98
Limits:	80-120	80-120	80-120	80-120

Analysis Name: Benzene
Batch number: Z200762AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1278355	107	102	95	96
1278356	108	102	99	95
1278357	107	102	101	96
1278358	108	102	100	94
1278359	107	102	100	92
1278360	108	102	99	98
1278361	108	103	100	95
1278362	109	101	99	92
1278363	108	103	99	93
1278364	109	104	99	92
1278365	108	104	100	91
Blank	109	105	99	91
LCS	104	101	101	103
Limits:	80-120	80-120	80-120	80-120

Analysis Name: SIM SVOAs 8270D MINI
Batch number: 20073WAH026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
1278355	62	77	108
1278356	122	83	86
1278357	100	66	83
1278358	118	68	91
1278359	90	68	88
1278360	83	50	78
1278361	93	77	82
1278362	104	84	79
1278363	89	81	80
1278364	101	73	78
1278365	95	68	77
1278366	64	67	42
1278367	120	77	89
1278369	111	62	70
Blank	99	86	88

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/25/2020 10:15

Group Number: 2091930

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: SIM SVOAs 8270D MINI

Batch number: 20073WAH026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
LCS	93	83	84
LCSD	92	81	81
Limits:	34-125	10-138	15-121

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 20073A20A

	Trifluorotoluene-F
1278355	76
1278356	80
1278357	74
1278358	79
1278359	81
1278360	81
1278361	72
Blank	81
LCS	89
LCSD	89
Limits:	50-150

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 20076A20A

	Trifluorotoluene-F
1278362	82
1278363	72
1278364	78
1278365	79
1278366	73
1278367	80
1278368	69
1278369	81
Blank	73
LCS	93
LCSD	90
Limits:	50-150

Analysis Name: NWTPH-Dx water w/Si Gel

Batch number: 200720022A

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron c/o Arcadis
Reported: 03/25/2020 10:15

Group Number: 2091930

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200720022A

	Orthoterphenyl	Capric Acid
1278355	67	0
1278356	79	0
1278357	63	0
1278358	63	0
1278359	78	0
1278361	62	0
1278362	72	0
1278363	72	0
1278364	67	0
Blank	68	0
LCS	53	0
LCSD	78	0

Limits: 50-150 0-1

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200720023A

	Orthoterphenyl	Capric Acid
1278365	64	0
1278366	62	0
1278369	68	0
Blank	73	0
LCS	68	0
LCSD	53	0

Limits: 50-150 0-1

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 200780018A

	Orthoterphenyl	Capric Acid
1278360	50	0
1278367	88	0
Blank	71	0
LCS	75	0
LCSD	78	0

Limits: 50-150 0-1

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964 Group # 2091930 Sample # 1278355-69
For Lancaster Laboratories use only
Instructions on reverse side correspond with circled numbers.

1 Client Information			4 Matrix				5 Analyses Requested										6 Remarks									
Facility # <u>WBS</u> <u>Edmonds Terminal</u>			Sediment <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/>	Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>	Oil <input type="checkbox"/>	Total Number of Containers	BTEX + MTBE <input type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/>	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/>	Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/>	WAVPH <input type="checkbox"/> WAEPPH <input type="checkbox"/>	<u>Benzene 8260c</u>	<u>PAH 8270 SIM</u>	SCR #: _____										
Site Address <u>11720 Unoco Rd, Edmonds WA</u>																										
Chevron PM <u>Kim Jolite</u> Lead Consultant <u>Sam Miles</u>																										
Consultant/Office <u>Arcadis-</u>																										
Consultant Project Mgr. <u>Sam Miles</u>																										
Consultant Phone # <u>(206) 726-4720</u>																										
Sampler <u>Dan Gilbert, Ryan Branchik, Brett Tobin</u>			3	Composite																						
2 Sample Identification		Collected		Grab	Soil	Water	Oil	Total	BTEX + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAVPH	WAEPPH	<u>Benzene 8260c</u>	<u>PAH 8270 SIM</u>	6 Remarks	
Date	Time	Grab	Composite																						Soil	Water
<u>MW-ER</u>	<u>3/11/20</u>	<u>1051</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Use Standard SGL</u> <u>RUSH 5day TAT</u>	
<u>MW-129R</u>		<u>1141</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-104</u>		<u>0921</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-LM-2</u>		<u>1331</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-525</u>		<u>1030</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-526</u>		<u>0930</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-530</u>		<u>1252</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-531</u>		<u>1130</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-532</u>		<u>1220</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-533</u>		<u>0912</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-534</u>		<u>1022</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-535</u>		<u>1113</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>DUP-4</u>		<u>-</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>10</u>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by				Date		Time		Received by				Date		Time								
Standard <input checked="" type="radio"/> day 4 day				<u>Brett Tobin</u>				<u>3/11/20</u>		<u>1500</u>																
72 hour 48 hour 24 hour				Relinquished by				Date		Time		Received by				Date		Time								
8 Data Package Options (please circle if required)				Relinquished by Commerical Carrier:								Received by				Date		Time								
Type I - Full Type VI (Raw Data)				UPS _____ FedEx <input checked="" type="checkbox"/> Other _____								<u>[Signature]</u>				<u>3/12/20</u>		<u>1018</u>								
				Temperature Upon Receipt <u>1.0-1.3 °C</u>								Custody Seals Intact? <input checked="" type="checkbox"/> Yes No														

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 11964 Group # 2091930 Sample # 1278355-69
 For Lancaster Laboratories use only
 Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested																				
Facility # <u>Edmonds Terminal</u>		WBS		Sediment	Ground	Surface	Potable	NPDES	Air	Oil	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH	Benzene 8260c	PAHs by 8270 SIM
Site Address <u>11720 Unaco Rd Edmonds WA</u>		Lead Consultant <u>Sam Miles</u>																										
Chevron PM <u>Kim Jolitz</u>		Consultant/Office <u>Arcadis</u>																										
Consultant Project Mgr. <u>Sam Miles</u>		Consultant Phone # <u>(206) 726-4720</u>																										
Sampler <u>Dan Gilbert, Ryan Brauchle, Brett Tobin</u>		Collected																										
2 Sample Identification		Date	Time	3 Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH	Benzene 8260c	PAHs by 8270 SIM		
<u>Trip Blank</u>	<u>—</u>	<u>—</u>							<u>3</u>							<u>X</u>												
<u>PUP-3</u>	<u>3/11/20</u>	<u>—</u>	<u>X</u>				<u>X</u>		<u>10</u>							<u>X</u>	<u>X</u>								<u>X</u>	<u>X</u>		

- SCR #: _____
- Results in Dry Weight
 - J value reporting needed
 - Must meet lowest detection limits possible for 8260 compounds
 - 8021 MTBE Confirmation
 - Confirm MTBE + Naphthalene
 - Confirm highest hit by 8260
 - Confirm all hits by 8260
 - Run _____ oxy's on highest hit
 - Run _____ oxy's on all hits

6 Remarks

Use standard SGL
Rush turnaround
5 day TAT

7 Turnaround Time Requested (TAT) (please circle) Standard <u>5 day</u> 4 day 72 hour 48 hour 24 hour	Relinquished by <u>Brett Tobin</u>	Date <u>3/11/20</u>	Time <u>1500</u>	Received by	Date	Time
	Relinquished by	Date	Time	Received by	Date	Time
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)	Relinquished by Commerical Carrier: UPS _____ FedEx <u>X</u> Other _____			Received by	Date <u>3/11/20</u>	Time <u>1018</u>
	Temperature Upon Receipt <u>10-13</u> °C			Custody Seals Intact? <u>Yes</u> No		



Client: Chevron

Edmonds Terminal

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Date: 03/12/2020
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	3
Samples Chilled:	Yes	Trip Blank Type:	HCI
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff

Samples Chilled Details: Edmonds Terminal

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT42-03	1.0	DT	Wet	Y	Bagged	N
2	DT42-03	1.3	DT	Wet	Y	Bagged	N
3	DT42-03	1.2	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

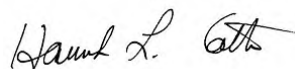
ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-5484-1
Client Project/Site: Edmonds Terminal
Revision: 2

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
10/7/2020 6:00:53 PM
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Designee for
Amek Carter, Project Manager
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Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

A handwritten signature in black ink, appearing to read "Hannah L. Cottman". The signature is written in a cursive style.

Hannah Cottman
Operations Support Specialist
10/7/2020 6:00:53 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Job ID: 410-5484-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-5484-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 9/2/2020. The report (revision 2) is being revised due to: The shipment containing samples MW-8R-W-200623, MW-20R-W-200623, MW-104-W-200623, MW-502-W-200623, MW-511-W-200623, MW-522-W-200623, MW-526-W-200623, MW-532-W-200623 was not complete. The samples were recollected, analyzed, and reported in login 410-.

Report revision history

Revision 1 - 9/8/2020 - Reason - Correct collection state to Washington..

Receipt

The samples were received on 6/24/2020 10:38 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.7° C, 1.7° C and 2.9° C.

Receipt Exceptions

Received 13 containers. 15 containers listed on COC. Did not received any HNO3 containers.

MW-525-W-200623 (410-5484-7)

15 containers received for MW-ER. 14 containers are listed on COC.

MW-ER-W-200623 (410-5484-12)

15 containers received for LM-2. 14 containers are listed on COC.

LM-2-W-200623 (410-5484-13)

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The total number of containers not listed on COC. Received 3 HCl vials for Trip Blank.

GC/MS VOA

Method 8260D: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-ER-W-200623 (410-5484-12), LM-2-W-200623 (410-5484-13) and DUP-2-WD-200623 (410-5484-15). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC

Method 300.0: The result for Sulfate was above the upper calibration range and is reported as an Estimated ("E") value in samples: MW-525-W-200623 (410-5484-7), MW-530-W-200623 (410-5484-9), MW-535-W-200623 (410-5484-11), LM-2-W-200623 (410-5484-13), DUP-1-WD-200623 (410-5484-14) and (410-5484-F-6)

This was due to samples not being repeated before samples went out of hold, and is the best analytical result achievable.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Job ID: 410-5484-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti)

Method NWTPH-Gx: Batch analytical batch 410-23387 is reported without a matrix spike/matrix spike duplicate (MS/MSD). The batch MS/MSD was originally performed on another client's sample, but did not meet the method requirements. Therefore, the MS/MSD cannot be used for this batch. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-525-W-200623

Lab Sample ID: 410-5484-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.72	J	1.0	0.20	ug/L	1		8260D	Total/NA
C7-C12 (1C)	41	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	430		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	150	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	1100		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-530-W-200623

Lab Sample ID: 410-5484-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	54		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	1800	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	580		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-535-W-200623

Lab Sample ID: 410-5484-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.31	J	0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	2000	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	2.0	J	2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-ER-W-200623

Lab Sample ID: 410-5484-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1000		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	16000		250	150	ug/L	50		RSK-175	Total/NA
Manganese	8800		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: LM-2-W-200623

Lab Sample ID: 410-5484-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	140	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1600		50	30	ug/L	10		RSK-175	Total/NA
Sulfate	290	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	150		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-1-WD-200623

Lab Sample ID: 410-5484-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.31	J	0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	1900	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	2.5		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-2-WD-200623

Lab Sample ID: 410-5484-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	960		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	15000		250	150	ug/L	50		RSK-175	Total/NA
Sulfate	2.5	J	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	8800		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-200623

Lab Sample ID: 410-5484-16

No Detections.

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-525-W-200623

Lab Sample ID: 410-5484-7

Date Collected: 06/23/20 11:12

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.72	J	1.0	0.20	ug/L			07/05/20 23:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					07/05/20 23:44	1
Dibromofluoromethane (Surr)	100		80 - 120					07/05/20 23:44	1
4-Bromofluorobenzene (Surr)	100		80 - 120					07/05/20 23:44	1
Toluene-d8 (Surr)	99		80 - 120					07/05/20 23:44	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Chrysene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		06/30/20 18:00	07/01/20 10:39	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		06/30/20 18:00	07/01/20 10:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	52		10 - 138				06/30/20 18:00	07/01/20 10:39	1
1-Methylnaphthalene-d10 (Surr)	77		15 - 121				06/30/20 18:00	07/01/20 10:39	1
Fluoranthene-d10 (Surr)	104		34 - 125				06/30/20 18:00	07/01/20 10:39	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	41	J	250	19	ug/L			07/06/20 16:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150					07/06/20 16:54	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	430		5.0	3.0	ug/L		07/02/20 10:04	07/02/20 17:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	56		28 - 140				07/02/20 10:04	07/02/20 17:55	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/26/20 06:46	06/30/20 06:16	1
C24-C40	ND		270	110	ug/L		06/26/20 06:46	06/30/20 06:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.008		0 - 1				06/26/20 06:46	06/30/20 06:16	1
o-terphenyl (Surr)	63		50 - 150				06/26/20 06:46	06/30/20 06:16	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/24/20 22:41	5
Sulfate	150	E	5.0	1.5	mg/L			06/24/20 22:41	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-525-W-200623

Lab Sample ID: 410-5484-7

Date Collected: 06/23/20 11:12

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1100		2.1	0.65	ug/L		07/25/20 14:53	07/31/20 13:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-530-W-200623

Lab Sample ID: 410-5484-9

Date Collected: 06/23/20 13:31

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 00:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					07/06/20 00:06	1
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 00:06	1
4-Bromofluorobenzene (Surr)	101		80 - 120					07/06/20 00:06	1
Toluene-d8 (Surr)	99		80 - 120					07/06/20 00:06	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Chrysene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/30/20 18:00	07/01/20 11:40	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/30/20 18:00	07/01/20 11:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	36		10 - 138				06/30/20 18:00	07/01/20 11:40	1
1-Methylnaphthalene-d10 (Surr)	63		15 - 121				06/30/20 18:00	07/01/20 11:40	1
Fluoranthene-d10 (Surr)	103		34 - 125				06/30/20 18:00	07/01/20 11:40	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/06/20 17:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	81		50 - 150					07/06/20 17:17	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	54		5.0	3.0	ug/L		07/02/20 10:04	07/02/20 18:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	61		28 - 140				07/02/20 10:04	07/02/20 18:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/26/20 06:46	06/30/20 07:01	1
C24-C40	ND		260	100	ug/L		06/26/20 06:46	06/30/20 07:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.00005		0 - 1				06/26/20 06:46	06/30/20 07:01	1
o-terphenyl (Surr)	66		50 - 150				06/26/20 06:46	06/30/20 07:01	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/24/20 23:00	5
Sulfate	1800	E	5.0	1.5	mg/L			06/24/20 23:00	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-530-W-200623

Lab Sample ID: 410-5484-9

Date Collected: 06/23/20 13:31

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	580		2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-535-W-200623

Lab Sample ID: 410-5484-11

Date Collected: 06/23/20 13:13

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 00:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					07/06/20 00:28	1
Dibromofluoromethane (Surr)	102		80 - 120					07/06/20 00:28	1
4-Bromofluorobenzene (Surr)	100		80 - 120					07/06/20 00:28	1
Toluene-d8 (Surr)	99		80 - 120					07/06/20 00:28	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Chrysene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		06/30/20 18:00	07/01/20 12:41	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 12:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	59		10 - 138				06/30/20 18:00	07/01/20 12:41	1
1-Methylnaphthalene-d10 (Surr)	67		15 - 121				06/30/20 18:00	07/01/20 12:41	1
Fluoranthene-d10 (Surr)	86		34 - 125				06/30/20 18:00	07/01/20 12:41	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/06/20 17:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150					07/06/20 17:40	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/02/20 10:09	07/02/20 13:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	58		28 - 140				07/02/20 10:09	07/02/20 13:36	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/26/20 06:46	06/30/20 07:46	1
C24-C40	ND		250	100	ug/L		06/26/20 06:46	06/30/20 07:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0005		0 - 1				06/26/20 06:46	06/30/20 07:46	1
o-terphenyl (Surr)	66		50 - 150				06/26/20 06:46	06/30/20 07:46	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.31	J	0.50	0.25	mg/L			06/24/20 23:19	5
Sulfate	2000	E	5.0	1.5	mg/L			06/24/20 23:19	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-535-W-200623

Lab Sample ID: 410-5484-11

Date Collected: 06/23/20 13:13

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.0	J	2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:45	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-ER-W-200623

Lab Sample ID: 410-5484-12

Date Collected: 06/23/20 14:23

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	2.0	ug/L			07/06/20 00:50	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/06/20 00:50	10
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 00:50	10
4-Bromofluorobenzene (Surr)	100		80 - 120					07/06/20 00:50	10
Toluene-d8 (Surr)	98		80 - 120					07/06/20 00:50	10

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Chrysene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/30/20 18:00	07/01/20 13:11	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/30/20 18:00	07/01/20 13:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	66		10 - 138				06/30/20 18:00	07/01/20 13:11	1
1-Methylnaphthalene-d10 (Surr)	59		15 - 121				06/30/20 18:00	07/01/20 13:11	1
Fluoranthene-d10 (Surr)	104		34 - 125				06/30/20 18:00	07/01/20 13:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1000		250	19	ug/L			07/06/20 18:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150					07/06/20 18:04	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	16000		250	150	ug/L		07/07/20 13:18	07/07/20 19:30	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	101		28 - 140				07/07/20 13:18	07/07/20 19:30	50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/26/20 06:46	06/30/20 08:09	1
C24-C40	ND		270	110	ug/L		06/26/20 06:46	06/30/20 08:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.03		0 - 1				06/26/20 06:46	06/30/20 08:09	1
o-terphenyl (Surr)	63		50 - 150				06/26/20 06:46	06/30/20 08:09	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/25/20 00:15	5
Sulfate	ND		5.0	1.5	mg/L			07/19/20 15:11	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-ER-W-200623

Lab Sample ID: 410-5484-12

Date Collected: 06/23/20 14:23

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	8800		2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: LM-2-W-200623

Lab Sample ID: 410-5484-13

Date Collected: 06/23/20 13:52

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	2.0	ug/L			07/06/20 01:12	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					07/06/20 01:12	10
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 01:12	10
4-Bromofluorobenzene (Surr)	99		80 - 120					07/06/20 01:12	10
Toluene-d8 (Surr)	98		80 - 120					07/06/20 01:12	10

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Chrysene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Dibenz(a,h)anthracene	ND		0.080	0.023	ug/L		06/30/20 18:00	07/01/20 13:42	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		06/30/20 18:00	07/01/20 13:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	55		10 - 138				06/30/20 18:00	07/01/20 13:42	1
1-Methylnaphthalene-d10 (Surr)	58		15 - 121				06/30/20 18:00	07/01/20 13:42	1
Fluoranthene-d10 (Surr)	98		34 - 125				06/30/20 18:00	07/01/20 13:42	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	140	J	250	19	ug/L			07/06/20 18:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	81		50 - 150					07/06/20 18:27	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1600		50	30	ug/L		07/07/20 13:18	07/07/20 19:48	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	95		28 - 140				07/07/20 13:18	07/07/20 19:48	10

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		06/26/20 06:46	06/30/20 08:32	1
C24-C40	ND		280	110	ug/L		06/26/20 06:46	06/30/20 08:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.005		0 - 1				06/26/20 06:46	06/30/20 08:32	1
o-terphenyl (Surr)	57		50 - 150				06/26/20 06:46	06/30/20 08:32	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/25/20 00:34	5
Sulfate	290	E	5.0	1.5	mg/L			06/25/20 00:34	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: LM-2-W-200623

Lab Sample ID: 410-5484-13

Date Collected: 06/23/20 13:52

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	150		2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:56	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: DUP-1-WD-200623

Lab Sample ID: 410-5484-14

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 01:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/06/20 01:34	1
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 01:34	1
4-Bromofluorobenzene (Surr)	100		80 - 120					07/06/20 01:34	1
Toluene-d8 (Surr)	98		80 - 120					07/06/20 01:34	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Chrysene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		06/30/20 18:00	07/01/20 14:12	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 14:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	40		10 - 138				06/30/20 18:00	07/01/20 14:12	1
1-Methylnaphthalene-d10 (Surr)	55		15 - 121				06/30/20 18:00	07/01/20 14:12	1
Fluoranthene-d10 (Surr)	72		34 - 125				06/30/20 18:00	07/01/20 14:12	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/06/20 18:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	79		50 - 150					07/06/20 18:50	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/02/20 10:09	07/02/20 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	57		28 - 140				07/02/20 10:09	07/02/20 14:38	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/26/20 06:46	06/30/20 08:54	1
C24-C40	ND		260	100	ug/L		06/26/20 06:46	06/30/20 08:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0004		0 - 1				06/26/20 06:46	06/30/20 08:54	1
o-terphenyl (Surr)	67		50 - 150				06/26/20 06:46	06/30/20 08:54	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.31	J	0.50	0.25	mg/L			06/25/20 00:52	5
Sulfate	1900	E	5.0	1.5	mg/L			06/25/20 00:52	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: DUP-1-WD-200623

Lab Sample ID: 410-5484-14

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.5		2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: DUP-2-WD-200623

Lab Sample ID: 410-5484-15

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	2.0	ug/L			07/06/20 01:56	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/06/20 01:56	10
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 01:56	10
4-Bromofluorobenzene (Surr)	100		80 - 120					07/06/20 01:56	10
Toluene-d8 (Surr)	98		80 - 120					07/06/20 01:56	10

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Chrysene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		06/30/20 18:00	07/01/20 14:43	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		06/30/20 18:00	07/01/20 14:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	59		10 - 138				06/30/20 18:00	07/01/20 14:43	1
1-Methylnaphthalene-d10 (Surr)	78		15 - 121				06/30/20 18:00	07/01/20 14:43	1
Fluoranthene-d10 (Surr)	67		34 - 125				06/30/20 18:00	07/01/20 14:43	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	960		250	19	ug/L			07/06/20 19:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					07/06/20 19:13	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	15000		250	150	ug/L		07/07/20 13:18	07/07/20 20:07	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	103		28 - 140				07/07/20 13:18	07/07/20 20:07	50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/26/20 06:46	06/30/20 09:17	1
C24-C40	ND		250	100	ug/L		06/26/20 06:46	06/30/20 09:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.1		0 - 1				06/26/20 06:46	06/30/20 09:17	1
o-terphenyl (Surr)	67		50 - 150				06/26/20 06:46	06/30/20 09:17	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/25/20 01:11	5
Sulfate	2.5 J		5.0	1.5	mg/L			07/19/20 15:28	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: DUP-2-WD-200623

Lab Sample ID: 410-5484-15

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	8800		2.1	0.65	ug/L		06/25/20 18:28	06/26/20 11:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: QA-T-200623

Lab Sample ID: 410-5484-16

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/05/20 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		07/05/20 22:38	1
Dibromofluoromethane (Surr)	100		80 - 120		07/05/20 22:38	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/05/20 22:38	1
Toluene-d8 (Surr)	99		80 - 120		07/05/20 22:38	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/16/20 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		07/16/20 21:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-5484-7	MW-525-W-200623	99	100	100	99
410-5484-9	MW-530-W-200623	99	101	101	99
410-5484-11	MW-535-W-200623	101	102	100	99
410-5484-12	MW-ER-W-200623	98	101	100	98
410-5484-13	LM-2-W-200623	101	101	99	98
410-5484-14	DUP-1-WD-200623	98	101	100	98
410-5484-15	DUP-2-WD-200623	98	101	100	98
410-5484-16	QA-T-200623	99	100	100	99
LCS 410-19361/4	Lab Control Sample	99	100	102	101
LCSD 410-19361/5	Lab Control Sample Dup	99	100	101	100
MB 410-19361/7	Method Blank	100	100	100	99

Surrogate Legend
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-5484-7	MW-525-W-200623	52	77	104
410-5484-9	MW-530-W-200623	36	63	103
410-5484-11	MW-535-W-200623	59	67	86
410-5484-12	MW-ER-W-200623	66	59	104
410-5484-13	LM-2-W-200623	55	58	98
410-5484-14	DUP-1-WD-200623	40	55	72
410-5484-15	DUP-2-WD-200623	59	78	67
LCS 410-18236/2-A	Lab Control Sample	87	39	96
LCSD 410-18236/3-A	Lab Control Sample Dup	85	39	96
MB 410-18236/1-A	Method Blank	79	48	96

Surrogate Legend
BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-150)
410-5484-7	MW-525-W-200623	77
410-5484-9	MW-530-W-200623	81
410-5484-11	MW-535-W-200623	82
410-5484-12	MW-ER-W-200623	82
410-5484-13	LM-2-W-200623	81

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-5484-14	DUP-1-WD-200623	79
410-5484-15	DUP-2-WD-200623	83
410-5484-16	QA-T-200623	85
LCS 410-19548/5	Lab Control Sample	84
LCS 410-23387/5	Lab Control Sample	77
LCSD 410-19548/6	Lab Control Sample Dup	84
MB 410-19548/4	Method Blank	83
MB 410-23387/4	Method Blank	85

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-5484-7	MW-525-W-200623	56
410-5484-9	MW-530-W-200623	61
410-5484-11	MW-535-W-200623	58
410-5484-12	MW-ER-W-200623	101
410-5484-13	LM-2-W-200623	95
410-5484-14	DUP-1-WD-200623	57
410-5484-15	DUP-2-WD-200623	103
LCS 410-18960/2-A	Lab Control Sample	100
LCS 410-18972/2-A	Lab Control Sample	104
LCS 410-20004/2-A	Lab Control Sample	98
LCSD 410-18960/3-A	Lab Control Sample Dup	98
LCSD 410-18972/3-A	Lab Control Sample Dup	104
LCSD 410-20004/3-A	Lab Control Sample Dup	98
MB 410-18960/1-A	Method Blank	100
MB 410-18972/1-A	Method Blank	104
MB 410-20004/1-A	Method Blank	99

Surrogate Legend

Propene = Propene

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-5484-7	MW-525-W-200623	0.008	63
410-5484-9	MW-530-W-200623	0.00005	66
410-5484-11	MW-535-W-200623	0.0005	66
410-5484-12	MW-ER-W-200623	0.03	63
410-5484-13	LM-2-W-200623	0.005	57
410-5484-14	DUP-1-WD-200623	0.0004	67
410-5484-15	DUP-2-WD-200623	0.1	67

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-19361/7
Matrix: Water
Analysis Batch: 19361

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/05/20 22:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					07/05/20 22:10	1
Dibromofluoromethane (Surr)	100		80 - 120					07/05/20 22:10	1
4-Bromofluorobenzene (Surr)	100		80 - 120					07/05/20 22:10	1
Toluene-d8 (Surr)	99		80 - 120					07/05/20 22:10	1

Lab Sample ID: LCS 410-19361/4
Matrix: Water
Analysis Batch: 19361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	21.0		ug/L		105	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	100		80 - 120				
4-Bromofluorobenzene (Surr)	102		80 - 120				
Toluene-d8 (Surr)	101		80 - 120				

Lab Sample ID: LCSD 410-19361/5
Matrix: Water
Analysis Batch: 19361

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.3		ug/L		101	80 - 120	4	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	99		80 - 120						
Dibromofluoromethane (Surr)	100		80 - 120						
4-Bromofluorobenzene (Surr)	101		80 - 120						
Toluene-d8 (Surr)	100		80 - 120						

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-18236/1-A
Matrix: Water
Analysis Batch: 18402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18236

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1
Chrysene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/30/20 18:00	07/01/20 08:37	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/30/20 18:00	07/01/20 08:37	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	79		10 - 138	06/30/20 18:00	07/01/20 08:37	1
1-Methylnaphthalene-d10 (Surr)	48		15 - 121	06/30/20 18:00	07/01/20 08:37	1
Fluoranthene-d10 (Surr)	96		34 - 125	06/30/20 18:00	07/01/20 08:37	1

Lab Sample ID: LCS 410-18236/2-A
Matrix: Water
Analysis Batch: 18402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18236

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.986		ug/L		99	61 - 117
Benzo[a]pyrene	1.00	1.00		ug/L		100	63 - 135
Benzo[b]fluoranthene	1.00	1.00		ug/L		100	66 - 138
Benzo[k]fluoranthene	1.00	0.977		ug/L		98	58 - 142
Chrysene	1.00	0.888		ug/L		89	61 - 117
Dibenz(a,h)anthracene	1.00	0.820		ug/L		82	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.913		ug/L		91	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	87		10 - 138
1-Methylnaphthalene-d10 (Surr)	39		15 - 121
Fluoranthene-d10 (Surr)	96		34 - 125

Lab Sample ID: LCSD 410-18236/3-A
Matrix: Water
Analysis Batch: 18402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18236

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	1.00	0.956		ug/L		96	61 - 117	3	30
Benzo[a]pyrene	1.00	0.979		ug/L		98	63 - 135	2	30
Benzo[b]fluoranthene	1.00	0.996		ug/L		99	66 - 138	0	30
Benzo[k]fluoranthene	1.00	0.936		ug/L		93	58 - 142	4	30
Chrysene	1.00	0.873		ug/L		87	61 - 117	2	30
Dibenz(a,h)anthracene	1.00	0.833		ug/L		83	51 - 139	2	30
Indeno[1,2,3-cd]pyrene	1.00	0.900		ug/L		90	56 - 147	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	85		10 - 138
1-Methylnaphthalene-d10 (Surr)	39		15 - 121
Fluoranthene-d10 (Surr)	96		34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-19548/4
Matrix: Water
Analysis Batch: 19548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/06/20 13:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		07/06/20 13:49	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: LCS 410-19548/5
Matrix: Water
Analysis Batch: 19548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1110		ug/L		101	64 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	84		50 - 150				

Lab Sample ID: LCSD 410-19548/6
Matrix: Water
Analysis Batch: 19548

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	906		ug/L		82	64 - 131	20	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	84		50 - 150						

Lab Sample ID: MB 410-23387/4
Matrix: Water
Analysis Batch: 23387

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/16/20 20:45	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150					07/16/20 20:45	1

Lab Sample ID: LCS 410-23387/5
Matrix: Water
Analysis Batch: 23387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1070		ug/L		97	64 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	77		50 - 150				

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-18960/1-A
Matrix: Water
Analysis Batch: 18977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/02/20 10:04	07/02/20 12:32	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	100		28 - 140				07/02/20 10:04	07/02/20 12:32	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 410-18960/2-A
Matrix: Water
Analysis Batch: 18977

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	61.2		ug/L		103	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	100		28 - 140				

Lab Sample ID: LCSD 410-18960/3-A
Matrix: Water
Analysis Batch: 18977

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18960

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	61.6		ug/L		104	85 - 115	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	98		28 - 140						

Lab Sample ID: MB 410-18972/1-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/02/20 10:09	07/02/20 12:37	1
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	104		28 - 140	07/02/20 10:09	07/02/20 12:37	1			

Lab Sample ID: LCS 410-18972/2-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	64.4		ug/L		108	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	104		28 - 140				

Lab Sample ID: LCSD 410-18972/3-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18972

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	64.7		ug/L		109	85 - 115	0	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	104		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 410-20004/1-A
Matrix: Water
Analysis Batch: 19948

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/07/20 13:18	07/07/20 18:17	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	99		28 - 140				07/07/20 13:18	07/07/20 18:17	1

Lab Sample ID: LCS 410-20004/2-A
Matrix: Water
Analysis Batch: 19948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	59.5		ug/L		100	85 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Propene (1C)	98		28 - 140				

Lab Sample ID: LCSD 410-20004/3-A
Matrix: Water
Analysis Batch: 19948

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20004

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	59.3		ug/L		100	85 - 115	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Propene (1C)	98		28 - 140						

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-26359/1-A
Matrix: Water
Analysis Batch: 28553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		07/25/20 14:53	07/31/20 13:10	1

Lab Sample ID: LCS 410-26359/2-A
Matrix: Water
Analysis Batch: 28553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26359

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	50.6		ug/L		101	85 - 115

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

GC/MS VOA

Analysis Batch: 19361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	8260D	
410-5484-9	MW-530-W-200623	Total/NA	Water	8260D	
410-5484-11	MW-535-W-200623	Total/NA	Water	8260D	
410-5484-12	MW-ER-W-200623	Total/NA	Water	8260D	
410-5484-13	LM-2-W-200623	Total/NA	Water	8260D	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	8260D	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	8260D	
410-5484-16	QA-T-200623	Total/NA	Water	8260D	
MB 410-19361/7	Method Blank	Total/NA	Water	8260D	
LCS 410-19361/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-19361/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 18236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	3510C	
410-5484-9	MW-530-W-200623	Total/NA	Water	3510C	
410-5484-11	MW-535-W-200623	Total/NA	Water	3510C	
410-5484-12	MW-ER-W-200623	Total/NA	Water	3510C	
410-5484-13	LM-2-W-200623	Total/NA	Water	3510C	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	3510C	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	3510C	
MB 410-18236/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-18236/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-18236/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 18402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	8270D SIM	18236
410-5484-9	MW-530-W-200623	Total/NA	Water	8270D SIM	18236
410-5484-11	MW-535-W-200623	Total/NA	Water	8270D SIM	18236
410-5484-12	MW-ER-W-200623	Total/NA	Water	8270D SIM	18236
410-5484-13	LM-2-W-200623	Total/NA	Water	8270D SIM	18236
410-5484-14	DUP-1-WD-200623	Total/NA	Water	8270D SIM	18236
410-5484-15	DUP-2-WD-200623	Total/NA	Water	8270D SIM	18236
MB 410-18236/1-A	Method Blank	Total/NA	Water	8270D SIM	18236
LCS 410-18236/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	18236
LCSD 410-18236/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	18236

GC VOA

Prep Batch: 18960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	RSK-175	
410-5484-9	MW-530-W-200623	Total/NA	Water	RSK-175	
MB 410-18960/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-18960/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-18960/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

GC VOA

Prep Batch: 18972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-11	MW-535-W-200623	Total/NA	Water	RSK-175	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	RSK-175	
MB 410-18972/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-18972/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-18972/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 18977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	RSK-175	18960
410-5484-9	MW-530-W-200623	Total/NA	Water	RSK-175	18960
MB 410-18960/1-A	Method Blank	Total/NA	Water	RSK-175	18960
LCS 410-18960/2-A	Lab Control Sample	Total/NA	Water	RSK-175	18960
LCSD 410-18960/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	18960

Analysis Batch: 18982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-11	MW-535-W-200623	Total/NA	Water	RSK-175	18972
410-5484-14	DUP-1-WD-200623	Total/NA	Water	RSK-175	18972
MB 410-18972/1-A	Method Blank	Total/NA	Water	RSK-175	18972
LCS 410-18972/2-A	Lab Control Sample	Total/NA	Water	RSK-175	18972
LCSD 410-18972/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	18972

Analysis Batch: 19548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	NWTPH-Gx	
410-5484-9	MW-530-W-200623	Total/NA	Water	NWTPH-Gx	
410-5484-11	MW-535-W-200623	Total/NA	Water	NWTPH-Gx	
410-5484-12	MW-ER-W-200623	Total/NA	Water	NWTPH-Gx	
410-5484-13	LM-2-W-200623	Total/NA	Water	NWTPH-Gx	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	NWTPH-Gx	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	NWTPH-Gx	
MB 410-19548/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-19548/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-19548/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 19948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-12	MW-ER-W-200623	Total/NA	Water	RSK-175	20004
410-5484-13	LM-2-W-200623	Total/NA	Water	RSK-175	20004
410-5484-15	DUP-2-WD-200623	Total/NA	Water	RSK-175	20004
MB 410-20004/1-A	Method Blank	Total/NA	Water	RSK-175	20004
LCS 410-20004/2-A	Lab Control Sample	Total/NA	Water	RSK-175	20004
LCSD 410-20004/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	20004

Prep Batch: 20004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-12	MW-ER-W-200623	Total/NA	Water	RSK-175	
410-5484-13	LM-2-W-200623	Total/NA	Water	RSK-175	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	RSK-175	
MB 410-20004/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-20004/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

GC VOA (Continued)

Prep Batch: 20004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-20004/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 23387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-16	QA-T-200623	Total/NA	Water	NWTPH-Gx	
MB 410-23387/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-23387/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 16965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	3510C	
410-5484-9	MW-530-W-200623	Total/NA	Water	3510C	
410-5484-11	MW-535-W-200623	Total/NA	Water	3510C	
410-5484-12	MW-ER-W-200623	Total/NA	Water	3510C	
410-5484-13	LM-2-W-200623	Total/NA	Water	3510C	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	3510C	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	3510C	

Cleanup Batch: 17389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	3630C	16965
410-5484-9	MW-530-W-200623	Total/NA	Water	3630C	16965
410-5484-11	MW-535-W-200623	Total/NA	Water	3630C	16965
410-5484-12	MW-ER-W-200623	Total/NA	Water	3630C	16965
410-5484-13	LM-2-W-200623	Total/NA	Water	3630C	16965
410-5484-14	DUP-1-WD-200623	Total/NA	Water	3630C	16965
410-5484-15	DUP-2-WD-200623	Total/NA	Water	3630C	16965

Analysis Batch: 17844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-9	MW-530-W-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-11	MW-535-W-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-12	MW-ER-W-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-13	LM-2-W-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-14	DUP-1-WD-200623	Total/NA	Water	NWTPH-Dx	17389
410-5484-15	DUP-2-WD-200623	Total/NA	Water	NWTPH-Dx	17389

HPLC/IC

Analysis Batch: 16450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	300.0	
410-5484-9	MW-530-W-200623	Total/NA	Water	300.0	
410-5484-11	MW-535-W-200623	Total/NA	Water	300.0	
410-5484-12	MW-ER-W-200623	Total/NA	Water	300.0	
410-5484-13	LM-2-W-200623	Total/NA	Water	300.0	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	300.0	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	300.0	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

HPLC/IC

Analysis Batch: 16451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Total/NA	Water	300.0	
410-5484-9	MW-530-W-200623	Total/NA	Water	300.0	
410-5484-11	MW-535-W-200623	Total/NA	Water	300.0	
410-5484-13	LM-2-W-200623	Total/NA	Water	300.0	
410-5484-14	DUP-1-WD-200623	Total/NA	Water	300.0	

Analysis Batch: 24024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-12	MW-ER-W-200623	Total/NA	Water	300.0	
410-5484-15	DUP-2-WD-200623	Total/NA	Water	300.0	

Metals

Prep Batch: 16848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-9	MW-530-W-200623	Dissolved	Water	Non-Digest Prep	
410-5484-11	MW-535-W-200623	Dissolved	Water	Non-Digest Prep	
410-5484-12	MW-ER-W-200623	Dissolved	Water	Non-Digest Prep	
410-5484-13	LM-2-W-200623	Dissolved	Water	Non-Digest Prep	
410-5484-14	DUP-1-WD-200623	Dissolved	Water	Non-Digest Prep	
410-5484-15	DUP-2-WD-200623	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 17166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-9	MW-530-W-200623	Dissolved	Water	200.8 Rev 5.4	16848
410-5484-11	MW-535-W-200623	Dissolved	Water	200.8 Rev 5.4	16848
410-5484-12	MW-ER-W-200623	Dissolved	Water	200.8 Rev 5.4	16848
410-5484-13	LM-2-W-200623	Dissolved	Water	200.8 Rev 5.4	16848
410-5484-14	DUP-1-WD-200623	Dissolved	Water	200.8 Rev 5.4	16848
410-5484-15	DUP-2-WD-200623	Dissolved	Water	200.8 Rev 5.4	16848

Prep Batch: 26359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Dissolved	Water	Non-Digest Prep	
MB 410-26359/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-26359/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 28553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5484-7	MW-525-W-200623	Dissolved	Water	200.8 Rev 5.4	26359
MB 410-26359/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	26359
LCS 410-26359/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	26359

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-525-W-200623

Lab Sample ID: 410-5484-7

Date Collected: 06/23/20 11:12

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	19361	07/05/20 23:44	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 10:39	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 16:54	JJT8	ELLE
Total/NA	Prep	RSK-175			18960	07/02/20 10:04	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18977	07/02/20 17:55	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 06:16	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/24/20 22:41	GJ35	ELLE
Total/NA	Analysis	300.0		5	16451	06/24/20 22:41	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			26359	07/25/20 14:53	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	28553	07/31/20 13:28	BMB	ELLE

Client Sample ID: MW-530-W-200623

Lab Sample ID: 410-5484-9

Date Collected: 06/23/20 13:31

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	19361	07/06/20 00:06	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 11:40	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 17:17	JJT8	ELLE
Total/NA	Prep	RSK-175			18960	07/02/20 10:04	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18977	07/02/20 18:13	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 07:01	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/24/20 23:00	GJ35	ELLE
Total/NA	Analysis	300.0		5	16451	06/24/20 23:00	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:54	BMB	ELLE

Client Sample ID: MW-535-W-200623

Lab Sample ID: 410-5484-11

Date Collected: 06/23/20 13:13

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	19361	07/06/20 00:28	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 12:41	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 17:40	JJT8	ELLE
Total/NA	Prep	RSK-175			18972	07/02/20 10:09	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18982	07/02/20 13:36	IYN5	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: MW-535-W-200623

Lab Sample ID: 410-5484-11

Date Collected: 06/23/20 13:13

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 07:46	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/24/20 23:19	GJ35	ELLE
Total/NA	Analysis	300.0		5	16451	06/24/20 23:19	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:45	BMB	ELLE

Client Sample ID: MW-ER-W-200623

Lab Sample ID: 410-5484-12

Date Collected: 06/23/20 14:23

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	19361	07/06/20 00:50	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 13:11	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 18:04	JJT8	ELLE
Total/NA	Prep	RSK-175			20004	07/07/20 13:18	IYN5	ELLE
Total/NA	Analysis	RSK-175		50	19948	07/07/20 19:30	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 08:09	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/25/20 00:15	GJ35	ELLE
Total/NA	Analysis	300.0		5	24024	07/19/20 15:11	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:50	BMB	ELLE

Client Sample ID: LM-2-W-200623

Lab Sample ID: 410-5484-13

Date Collected: 06/23/20 13:52

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	19361	07/06/20 01:12	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 13:42	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 18:27	JJT8	ELLE
Total/NA	Prep	RSK-175			20004	07/07/20 13:18	IYN5	ELLE
Total/NA	Analysis	RSK-175		10	19948	07/07/20 19:48	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 08:32	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/25/20 00:34	GJ35	ELLE
Total/NA	Analysis	300.0		5	16451	06/25/20 00:34	GJ35	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: LM-2-W-200623

Lab Sample ID: 410-5484-13

Date Collected: 06/23/20 13:52

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:56	BMB	ELLE

Client Sample ID: DUP-1-WD-200623

Lab Sample ID: 410-5484-14

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	19361	07/06/20 01:34	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 14:12	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 18:50	JJT8	ELLE
Total/NA	Prep	RSK-175			18972	07/02/20 10:09	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18982	07/02/20 14:38	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 08:54	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/25/20 00:52	GJ35	ELLE
Total/NA	Analysis	300.0		5	16451	06/25/20 00:52	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:46	BMB	ELLE

Client Sample ID: DUP-2-WD-200623

Lab Sample ID: 410-5484-15

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	19361	07/06/20 01:56	MJ8R	ELLE
Total/NA	Prep	3510C			18236	06/30/20 18:00	DFX4	ELLE
Total/NA	Analysis	8270D SIM		1	18402	07/01/20 14:43	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19548	07/06/20 19:13	JJT8	ELLE
Total/NA	Prep	RSK-175			20004	07/07/20 13:18	IYN5	ELLE
Total/NA	Analysis	RSK-175		50	19948	07/07/20 20:07	IYN5	ELLE
Total/NA	Prep	3510C			16965	06/26/20 06:46	C4EI	ELLE
Total/NA	Cleanup	3630C			17389	06/28/20 12:45	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 09:17	IUSB	ELLE
Total/NA	Analysis	300.0		5	16450	06/25/20 01:11	GJ35	ELLE
Total/NA	Analysis	300.0		5	24024	07/19/20 15:28	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			16848	06/25/20 18:28	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	17166	06/26/20 11:48	BMB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Client Sample ID: QA-T-200623

Lab Sample ID: 410-5484-16

Date Collected: 06/23/20 00:00

Matrix: Water

Date Received: 06/24/20 10:38

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260D		1	19361	07/05/20 22:38	MJ8R	ELLE
Total/NA	Analysis	NWTPH-Gx		1	23387	07/16/20 21:37	JJT8	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
300.0	Anions, Ion Chromatography	MCAWW	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030B	Purge and Trap	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5484-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-5484-7	MW-525-W-200623	Water	06/23/20 11:12	06/24/20 10:38	
410-5484-9	MW-530-W-200623	Water	06/23/20 13:31	06/24/20 10:38	
410-5484-11	MW-535-W-200623	Water	06/23/20 13:13	06/24/20 10:38	
410-5484-12	MW-ER-W-200623	Water	06/23/20 14:23	06/24/20 10:38	
410-5484-13	LM-2-W-200623	Water	06/23/20 13:52	06/24/20 10:38	
410-5484-14	DUP-1-WD-200623	Water	06/23/20 00:00	06/24/20 10:38	
410-5484-15	DUP-2-WD-200623	Water	06/23/20 00:00	06/24/20 10:38	
410-5484-16	QA-T-200623	Water	06/23/20 00:00	06/24/20 10:38	





Lancaster Laboratories

Acct. #

use only

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1 Client Information				4 Matrix				5 Analyses Requested											6 Remarks																		
Facility #		WBS		Sediment	Ground	Surface	Potable	NPDES	Air	Oil	Total Number of Containers	BTEX+MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH	CPAHs 8070 Sim	Diss. Methane RSK175	Sulfate and Nitrate 300.0	Diss. Manganese	Methods and for Compliance CC - Dig	SCR #:					
Edmonds Terminal																																Results in Dry Weight		J value reporting needed		Must meet lowest detection limits possible for 8260 compounds	
Site Address				Soil	Water	Oil	Composite	Grab	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Date	Time	Remarks				
11720 Unoco Road, Edmonds WA																																	MW-8R		6-23-20 0932		X
Chevron PM		Lead Consultant		MW-20R		6-23-20 1113																												Dissolved Manganese has been field filtered.			
Kim Jolitz		Arcadis		MW-104		1223																															
Consultant/Office				MW-5b2		1111																															
1100 Olive Way Suite 800 Seattle, WA 98101				MW-511		951																															
Consultant Project Mgr				MW-522		0933																															
Sam Miles				MW-522 MS		0935																															
Consultant Phone #				MW-522 MSD		0937																															
Daniel Gilbert, Ryan Branchla, Riku Kusakabe				MW-525		1112																															
				MW-526		1201																															
				MW-530		1331																															
				MW-532		1222																															
				MW-535		1313																															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by				Date				Time				Received by				Date				Time													
Standard 5 day 4 day				Daniel Sly Gilbert				6-23-20				1600				FedEx																					
72 hour 48 hour 24 hour																																					
8 Data Package Options (please circle if required)				Relinquished by Commerical Carrier				Date				Time				Received by				Date				Time													
Type I - Full Type VI (Raw Data)				UPS FedEx X Other												mf				6/24/20				1038													
				Temperature Upon Receipt				0.7-2.9 °C				Custody Seals Intact?				Yes				No																	

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct # _____

Group # _____

For Lancaster Laboratories use only

Sample # _____

Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information				4 Matrix				5 Analyses Requested												6 Remarks					
Facility # WBS Edmonds Terminal				Sediment <input type="checkbox"/> Potable <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Oil <input type="checkbox"/> Air <input type="checkbox"/>				Total Number of Containers BTEX-MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> CPAHS 8270 SIM Diss Methane RSK 175 Sulfate + Nitrate 300.0 Diss. Manganese MTBE 8260																	
Site Address 11720 Unoco Road, Edmonds, WA				Composite <input type="checkbox"/>				SCR #:												<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits					
Chevron PM Kim Jolitz																						Lead Consultant Arcadis			
Consultant/Office 1100 Olive Way Suite 200, Seattle, WA 98101				3 Grab				<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits																	
Consultant Project Mgr Sam Miles																				Soil <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>				<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits	
Consultant Phone #				Oil <input type="checkbox"/>				<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits																	
2 Sample Identification																				Date				Time	
Sample Identification				Date				Time																	
MW-ER																				6-23-20				1423	
LM-2				6-23-20				1352												• Use standard SEC • Dissolved Manganese field filtered.					
DUP-1				6-23-20				---														• Use standard SEC • Dissolved Manganese field filtered.			
DUP-2				6-23-20				---												• Use standard SEC • Dissolved Manganese field filtered.					
TRIP BLANK				---				---														• Use standard SEC • Dissolved Manganese field filtered.			
7 Turnaround Time Requested (TAT) (please circle)				Standard <input checked="" type="radio"/> 5 day				4 day				72 hour				48 hour				24 hour				Relinquished by Daniel Sky Gilbert Date 6-23-20 Time 1600 Received by FedEx Date _____ Time _____	
8 Data Package Options (please circle if required)				Type I - Full				Type VI (Raw Data)				Relinquished by Commercial Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____				Received by [Signature] Date 6/20/20 Time 1538				Temperature Upon Receipt 0.7-2.9 °C Custody Seals Intact? Yes <input checked="" type="checkbox"/> No					

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-5484-1

Login Number: 5484

List Number: 1

Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-5649-1

Client Project/Site: Edmonds Terminal

For:

ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles

A handwritten signature in cursive script that reads "Amek Carter".

Authorized for release by:
7/27/2020 4:15:03 PM

Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

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Amek Carter
Project Manager
7/27/2020 4:15:03 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Job ID: 410-5649-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-5649-1

Receipt

The samples were received on 6/25/2020 10:27 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.7°C, 0.9°C, 1.3°C and 2.6°C

GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: MW-533-W-200624 (410-5649-12). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

Method NWTPH_Dx: The surrogate recovery for the method blank associated with preparation batch 410-16966 and 410-17269 and analytical batch 410-17844 was outside the upper control limits. The samples were re-extracted outside the method required holding time and the method blank is compliant. The surrogate for the following samples was outside control limits in the second trial. The data is reported from the first trial. MW-129R-W-200624 (410-5649-3), MW-139R-W-200624 (410-5649-4) and MW-518-W-200624 (410-5649-8)

Method NWTPH_Dx: The surrogate recovery for the method blank associated with preparation batch 410-16966 and 410-17269 and analytical batch 410-17844 was outside the upper control limits. The surrogate recovery for sample MW-533-W-200624 (410-5649-12) was outside control limits. The samples were re-extracted outside the method required holding time and the method blank and sample surrogate is compliant. The data is reported from the first trial.

Method NWTPH_Dx: The surrogate recovery for the blank associated with preparation batch 410-16966 and 410-17269 and analytical batch 410-17844 was outside the upper control limits. Sufficient samples were not available to re-extract. MW-101-W-200624 (410-5649-1), MW-126-W-200624 (410-5649-2), (410-5649-L-1-D DU) and (410-5649-L-2-D DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time due to analyst error: MW-101-W-200624 (410-5649-1), MW-126-W-200624 (410-5649-2), MW-129R-W-200624 (410-5649-3), MW-139R-W-200624 (410-5649-4), MW-143-W-200624 (410-5649-5), MW-506-W-200624 (410-5649-6), MW-507-W-200624 (410-5649-7), MW-518-W-200624 (410-5649-8), MW-519-W-200624 (410-5649-9), MW-520-W-200624 (410-5649-10), MW-531-W-200624 (410-5649-11), MW-533-W-200624 (410-5649-12), MW-534-W-200624 (410-5649-13), DUP-3-WD-200624 (410-5649-14) and DUP-4-WD-200624 (410-5649-15).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-101-W-200624

Lab Sample ID: 410-5649-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1200		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	4200		100	60	ug/L	20		RSK-175	Total/NA
Sulfate	37		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	4600		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-126-W-200624

Lab Sample ID: 410-5649-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	41		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	47		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-129R-W-200624

Lab Sample ID: 410-5649-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	53	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1500		25	15	ug/L	5		RSK-175	Total/NA
C12-C24	51	J	100	47	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	170	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	7700		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-139R-W-200624

Lab Sample ID: 410-5649-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.32	J H	0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	1100	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	2.1		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-143-W-200624

Lab Sample ID: 410-5649-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	24	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	12000		250	150	ug/L	50		RSK-175	Total/NA
Manganese	3700		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-506-W-200624

Lab Sample ID: 410-5649-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	30	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	6600		100	60	ug/L	20		RSK-175	Total/NA
Sulfate	120	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	5300		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-507-W-200624

Lab Sample ID: 410-5649-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	13		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	240	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	14		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-518-W-200624

Lab Sample ID: 410-5649-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	930		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	950		25	15	ug/L	5		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-518-W-200624 (Continued)

Lab Sample ID: 410-5649-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	87	J	110	47	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	11		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	240		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-519-W-200624

Lab Sample ID: 410-5649-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	38		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	55		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	66		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-520-W-200624

Lab Sample ID: 410-5649-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	76	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	6.0		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-531-W-200624

Lab Sample ID: 410-5649-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	440		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	64		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	810		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-533-W-200624

Lab Sample ID: 410-5649-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.31	J H	0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	2600	E	5.0	1.5	mg/L	5		300.0	Total/NA

Client Sample ID: MW-534-W-200624

Lab Sample ID: 410-5649-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	20	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1100		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	360	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	3900		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-3-WD-200624

Lab Sample ID: 410-5649-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	45	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1500		25	15	ug/L	5		RSK-175	Total/NA
C12-C24	59	J	100	46	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	170	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	7800		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-4-WD-200624

Lab Sample ID: 410-5649-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	950		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	970		25	15	ug/L	5		RSK-175	Total/NA
C12-C24	98	J	110	48	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	11		5.0	1.5	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: DUP-4-WD-200624 (Continued)

Lab Sample ID: 410-5649-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	240		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-200624

Lab Sample ID: 410-5649-16

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC



Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-101-W-200624

Lab Sample ID: 410-5649-1

Date Collected: 06/24/20 13:33

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 02:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120					07/06/20 02:17	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					07/06/20 02:17	1
Dibromofluoromethane (Surr)	101		80 - 120					07/06/20 02:17	1
4-Bromofluorobenzene (Surr)	101		80 - 120					07/06/20 02:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Chrysene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		06/28/20 12:13	07/01/20 15:14	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 15:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	42		10 - 138				06/28/20 12:13	07/01/20 15:14	1
1-Methylnaphthalene-d10 (Surr)	92		15 - 121				06/28/20 12:13	07/01/20 15:14	1
Fluoranthene-d10 (Surr)	98		34 - 125				06/28/20 12:13	07/01/20 15:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1200		250	19	ug/L			07/03/20 13:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150					07/03/20 13:07	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	4200		100	60	ug/L		07/02/20 11:00	07/02/20 22:49	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	93		28 - 140				07/02/20 11:00	07/02/20 22:49	20

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/26/20 06:49	06/30/20 13:13	1
C24-C40	ND		260	100	ug/L		06/26/20 06:49	06/30/20 13:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0003		0 - 1				06/26/20 06:49	06/30/20 13:13	1
o-terphenyl (Surr)	65		50 - 150				06/26/20 06:49	06/30/20 13:13	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 03:03	5
Sulfate	37		5.0	1.5	mg/L			06/28/20 03:03	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-101-W-200624

Lab Sample ID: 410-5649-1

Date Collected: 06/24/20 13:33

Matrix: Water

Date Received: 06/25/20 10:27

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4600		2.1	0.65	ug/L		06/26/20 10:01	07/14/20 15:38	1

Client Sample ID: MW-126-W-200624

Lab Sample ID: 410-5649-2

Date Collected: 06/24/20 12:32

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		07/06/20 02:39	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		07/06/20 02:39	1
Dibromofluoromethane (Surr)	101		80 - 120		07/06/20 02:39	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/06/20 02:39	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1
Chrysene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/28/20 12:13	07/01/20 15:42	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	71		10 - 138	06/28/20 12:13	07/01/20 15:42	1
1-Methylnaphthalene-d10 (Surr)	71		15 - 121	06/28/20 12:13	07/01/20 15:42	1
Fluoranthene-d10 (Surr)	88		34 - 125	06/28/20 12:13	07/01/20 15:42	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150		07/03/20 13:31	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 14:03	07/01/20 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	74		28 - 140	07/01/20 14:03	07/01/20 18:16	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/26/20 06:49	06/30/20 12:28	1
C24-C40	ND		250	100	ug/L		06/26/20 06:49	06/30/20 12:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.00008		0 - 1	06/26/20 06:49	06/30/20 12:28	1

Eurolabs Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-126-W-200624

Lab Sample ID: 410-5649-2

Date Collected: 06/24/20 12:32

Matrix: Water

Date Received: 06/25/20 10:27

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr)</i>	53		50 - 150	06/26/20 06:49	06/30/20 12:28	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 03:22	5
Sulfate	41		5.0	1.5	mg/L			06/28/20 03:22	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	47		2.1	0.65	ug/L		07/01/20 16:32	07/15/20 11:36	1

Client Sample ID: MW-129R-W-200624

Lab Sample ID: 410-5649-3

Date Collected: 06/24/20 09:31

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 03:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	99		80 - 120		07/06/20 03:01	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	99		80 - 120		07/06/20 03:01	1
<i>Dibromofluoromethane (Surr)</i>	101		80 - 120		07/06/20 03:01	1
<i>4-Bromofluorobenzene (Surr)</i>	101		80 - 120		07/06/20 03:01	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1
Chrysene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/28/20 12:13	07/01/20 16:10	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	82		10 - 138	06/28/20 12:13	07/01/20 16:10	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	79		15 - 121	06/28/20 12:13	07/01/20 16:10	1
<i>Fluoranthene-d10 (Surr)</i>	107		34 - 125	06/28/20 12:13	07/01/20 16:10	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	53	J	250	19	ug/L			07/03/20 13:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	84		50 - 150		07/03/20 13:54	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1500		25	15	ug/L		07/02/20 11:00	07/02/20 23:48	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-129R-W-200624

Lab Sample ID: 410-5649-3

Date Collected: 06/24/20 09:31

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	82		28 - 140	07/02/20 11:00	07/02/20 23:48	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	51	J	100	47	ug/L		06/26/20 06:49	06/30/20 13:36	1
C24-C40	ND		260	100	ug/L		06/26/20 06:49	06/30/20 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.006		0 - 1	06/26/20 06:49	06/30/20 13:36	1
o-terphenyl (Surr)	60		50 - 150	06/26/20 06:49	06/30/20 13:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 03:41	5
Sulfate	170	E	5.0	1.5	mg/L			06/28/20 03:41	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7700		2.1	0.65	ug/L		06/26/20 10:01	07/14/20 15:40	1

Client Sample ID: MW-139R-W-200624

Lab Sample ID: 410-5649-4

Date Collected: 06/24/20 11:13

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 03:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		07/06/20 03:23	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		07/06/20 03:23	1
Dibromofluoromethane (Surr)	101		80 - 120		07/06/20 03:23	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/06/20 03:23	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1
Chrysene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		06/28/20 12:13	07/01/20 16:39	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	64		10 - 138	06/28/20 12:13	07/01/20 16:39	1
1-Methylnaphthalene-d10 (Surr)	71		15 - 121	06/28/20 12:13	07/01/20 16:39	1
Fluoranthene-d10 (Surr)	86		34 - 125	06/28/20 12:13	07/01/20 16:39	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 14:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-139R-W-200624

Lab Sample ID: 410-5649-4

Date Collected: 06/24/20 11:13

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	69		50 - 150		07/03/20 14:18	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 14:03	07/01/20 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	65		28 - 140	07/01/20 14:03	07/01/20 18:54	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/26/20 06:49	06/30/20 13:58	1
C24-C40	ND		270	110	ug/L		06/26/20 06:49	06/30/20 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.0004		0 - 1	06/26/20 06:49	06/30/20 13:58	1
<i>o-terphenyl (Surr)</i>	60		50 - 150	06/26/20 06:49	06/30/20 13:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.32	J H	0.50	0.25	mg/L			06/28/20 04:00	5
Sulfate	1100	E	5.0	1.5	mg/L			06/28/20 04:00	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.1		2.1	0.65	ug/L		06/26/20 10:01	07/14/20 15:43	1

Client Sample ID: MW-143-W-200624

Lab Sample ID: 410-5649-5

Date Collected: 06/24/20 11:22

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		80 - 120		07/06/20 03:45	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	97		80 - 120		07/06/20 03:45	1
<i>Dibromofluoromethane (Surr)</i>	101		80 - 120		07/06/20 03:45	1
<i>4-Bromofluorobenzene (Surr)</i>	99		80 - 120		07/06/20 03:45	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1
Chrysene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		06/28/20 12:13	07/01/20 17:07	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		06/28/20 12:13	07/01/20 17:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	75		10 - 138	06/28/20 12:13	07/01/20 17:07	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-143-W-200624

Lab Sample ID: 410-5649-5

Date Collected: 06/24/20 11:22

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	69		15 - 121	06/28/20 12:13	07/01/20 17:07	1
Fluoranthene-d10 (Surr)	123		34 - 125	06/28/20 12:13	07/01/20 17:07	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	24	J	250	19	ug/L			07/03/20 14:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		07/03/20 14:41	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	12000		250	150	ug/L		07/02/20 11:00	07/03/20 00:08	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	100		28 - 140	07/02/20 11:00	07/03/20 00:08	50

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/26/20 06:49	06/30/20 14:21	1
C24-C40	ND		260	100	ug/L		06/26/20 06:49	06/30/20 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.002		0 - 1	06/26/20 06:49	06/30/20 14:21	1
o-terphenyl (Surr)	66		50 - 150	06/26/20 06:49	06/30/20 14:21	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 04:56	5
Sulfate	ND		5.0	1.5	mg/L			06/28/20 04:56	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	3700		2.1	0.65	ug/L		06/26/20 10:01	07/14/20 15:45	1

Client Sample ID: MW-506-W-200624

Lab Sample ID: 410-5649-6

Date Collected: 06/24/20 11:21

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/06/20 04:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		07/06/20 04:07	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		07/06/20 04:07	1
Dibromofluoromethane (Surr)	102		80 - 120		07/06/20 04:07	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/06/20 04:07	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-506-W-200624

Lab Sample ID: 410-5649-6

Date Collected: 06/24/20 11:21

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1
Chrysene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		06/28/20 12:13	07/01/20 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/28/20 12:13	07/01/20 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	57		10 - 138	06/28/20 12:13	07/01/20 17:35	1
1-Methylnaphthalene-d10 (Surr)	77		15 - 121	06/28/20 12:13	07/01/20 17:35	1
Fluoranthene-d10 (Surr)	103		34 - 125	06/28/20 12:13	07/01/20 17:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	30	J	250	19	ug/L			07/03/20 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		07/03/20 15:05	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	6600		100	60	ug/L		07/02/20 11:00	07/03/20 00:27	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	95		28 - 140	07/02/20 11:00	07/03/20 00:27	20

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		06/26/20 06:49	06/30/20 15:29	1
C24-C40	ND		280	110	ug/L		06/26/20 06:49	06/30/20 15:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0005		0 - 1	06/26/20 06:49	06/30/20 15:29	1
o-terphenyl (Surr)	65		50 - 150	06/26/20 06:49	06/30/20 15:29	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 05:15	5
Sulfate	120	E	5.0	1.5	mg/L			06/28/20 05:15	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5300		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:03	1

Client Sample ID: MW-507-W-200624

Lab Sample ID: 410-5649-7

Date Collected: 06/24/20 12:51

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 02:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-507-W-200624

Lab Sample ID: 410-5649-7

Date Collected: 06/24/20 12:51

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		07/08/20 02:08	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		07/08/20 02:08	1
Dibromofluoromethane (Surr)	93		80 - 120		07/08/20 02:08	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/08/20 02:08	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1
Chrysene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/28/20 12:13	07/01/20 18:04	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	77		10 - 138	06/28/20 12:13	07/01/20 18:04	1
1-Methylnaphthalene-d10 (Surr)	76		15 - 121	06/28/20 12:13	07/01/20 18:04	1
Fluoranthene-d10 (Surr)	92		34 - 125	06/28/20 12:13	07/01/20 18:04	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 15:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	73		50 - 150		07/03/20 15:29	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	13		5.0	3.0	ug/L		07/01/20 14:03	07/01/20 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	62		28 - 140	07/01/20 14:03	07/01/20 19:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		06/26/20 06:49	06/30/20 15:52	1
C24-C40	ND		260	110	ug/L		06/26/20 06:49	06/30/20 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0006		0 - 1	06/26/20 06:49	06/30/20 15:52	1
o-terphenyl (Surr)	61		50 - 150	06/26/20 06:49	06/30/20 15:52	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 05:33	5
Sulfate	240	E	5.0	1.5	mg/L			06/28/20 05:33	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	14		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-518-W-200624

Lab Sample ID: 410-5649-8

Date Collected: 06/24/20 12:13

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 02:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120					07/08/20 02:31	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/08/20 02:31	1
Dibromofluoromethane (Surr)	91		80 - 120					07/08/20 02:31	1
4-Bromofluorobenzene (Surr)	97		80 - 120					07/08/20 02:31	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Chrysene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		06/28/20 12:13	07/01/20 18:32	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	54		10 - 138				06/28/20 12:13	07/01/20 18:32	1
1-Methylnaphthalene-d10 (Surr)	71		15 - 121				06/28/20 12:13	07/01/20 18:32	1
Fluoranthene-d10 (Surr)	87		34 - 125				06/28/20 12:13	07/01/20 18:32	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	930		250	19	ug/L			07/03/20 15:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	65		50 - 150					07/03/20 15:52	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	950		25	15	ug/L		07/02/20 11:00	07/03/20 00:47	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	84		28 - 140				07/02/20 11:00	07/03/20 00:47	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	87	J	110	47	ug/L		06/26/20 06:49	06/30/20 16:14	1
C24-C40	ND		260	110	ug/L		06/26/20 06:49	06/30/20 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.03		0 - 1				06/26/20 06:49	06/30/20 16:14	1
o-terphenyl (Surr)	59		50 - 150				06/26/20 06:49	06/30/20 16:14	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 05:52	5
Sulfate	11		5.0	1.5	mg/L			06/28/20 05:52	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-518-W-200624

Lab Sample ID: 410-5649-8

Date Collected: 06/24/20 12:13

Matrix: Water

Date Received: 06/25/20 10:27

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	240		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:14	1

Client Sample ID: MW-519-W-200624

Lab Sample ID: 410-5649-9

Date Collected: 06/24/20 09:52

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 02:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		07/08/20 02:53	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		07/08/20 02:53	1
Dibromofluoromethane (Surr)	91		80 - 120		07/08/20 02:53	1
4-Bromofluorobenzene (Surr)	97		80 - 120		07/08/20 02:53	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1
Chrysene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/28/20 12:13	07/01/20 19:00	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/28/20 12:13	07/01/20 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	70		10 - 138	06/28/20 12:13	07/01/20 19:00	1
1-Methylnaphthalene-d10 (Surr)	77		15 - 121	06/28/20 12:13	07/01/20 19:00	1
Fluoranthene-d10 (Surr)	87		34 - 125	06/28/20 12:13	07/01/20 19:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150		07/03/20 16:15	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	38		5.0	3.0	ug/L		07/01/20 09:40	07/01/20 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	79		28 - 140	07/01/20 09:40	07/01/20 16:42	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		06/26/20 06:49	06/30/20 16:37	1
C24-C40	ND		260	110	ug/L		06/26/20 06:49	06/30/20 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.001		0 - 1	06/26/20 06:49	06/30/20 16:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-519-W-200624

Lab Sample ID: 410-5649-9

Date Collected: 06/24/20 09:52

Matrix: Water

Date Received: 06/25/20 10:27

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -terphenyl (Surr)	55		50 - 150	06/26/20 06:49	06/30/20 16:37	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 02:45	5
Sulfate	55		5.0	1.5	mg/L			06/28/20 02:45	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	66		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:05	1

Client Sample ID: MW-520-W-200624

Lab Sample ID: 410-5649-10

Date Collected: 06/24/20 13:22

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 03:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8</i> (Surr)	97		80 - 120		07/08/20 03:16	1
<i>1,2-Dichloroethane-d4</i> (Surr)	97		80 - 120		07/08/20 03:16	1
<i>Dibromofluoromethane</i> (Surr)	89		80 - 120		07/08/20 03:16	1
<i>4-Bromofluorobenzene</i> (Surr)	96		80 - 120		07/08/20 03:16	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1
Chrysene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		06/28/20 12:13	07/01/20 19:29	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		06/28/20 12:13	07/01/20 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12</i> (Surr)	81		10 - 138	06/28/20 12:13	07/01/20 19:29	1
<i>1-Methylnaphthalene-d10</i> (Surr)	77		15 - 121	06/28/20 12:13	07/01/20 19:29	1
<i>Fluoranthene-d10</i> (Surr)	93		34 - 125	06/28/20 12:13	07/01/20 19:29	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid)</i> (1C)	84		50 - 150		07/03/20 17:03	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 09:40	07/01/20 17:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-520-W-200624

Lab Sample ID: 410-5649-10

Date Collected: 06/24/20 13:22

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	76		28 - 140	07/01/20 09:40	07/01/20 17:00	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/26/20 06:49	06/30/20 17:00	1
C24-C40	ND		270	110	ug/L		06/26/20 06:49	06/30/20 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0001		0 - 1	06/26/20 06:49	06/30/20 17:00	1
o-terphenyl (Surr)	65		50 - 150	06/26/20 06:49	06/30/20 17:00	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 06:11	5
Sulfate	76	E	5.0	1.5	mg/L			06/28/20 06:11	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	6.0		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:07	1

Client Sample ID: MW-531-W-200624

Lab Sample ID: 410-5649-11

Date Collected: 06/24/20 09:02

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		07/08/20 03:39	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		07/08/20 03:39	1
Dibromofluoromethane (Surr)	89		80 - 120		07/08/20 03:39	1
4-Bromofluorobenzene (Surr)	95		80 - 120		07/08/20 03:39	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1
Chrysene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		06/29/20 07:13	06/30/20 00:44	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		06/29/20 07:13	06/30/20 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	48		10 - 138	06/29/20 07:13	06/30/20 00:44	1
1-Methylnaphthalene-d10 (Surr)	70		15 - 121	06/29/20 07:13	06/30/20 00:44	1
Fluoranthene-d10 (Surr)	88		34 - 125	06/29/20 07:13	06/30/20 00:44	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 17:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-531-W-200624

Lab Sample ID: 410-5649-11

Date Collected: 06/24/20 09:02

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	83		50 - 150		07/03/20 17:26	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	440		5.0	3.0	ug/L		07/01/20 09:40	07/01/20 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	74		28 - 140	07/01/20 09:40	07/01/20 17:18	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/26/20 06:49	06/30/20 17:22	1
C24-C40	ND		270	110	ug/L		06/26/20 06:49	06/30/20 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.0004		0 - 1	06/26/20 06:49	06/30/20 17:22	1
<i>o-terphenyl (Surr)</i>	55		50 - 150	06/26/20 06:49	06/30/20 17:22	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 06:30	5
Sulfate	64		5.0	1.5	mg/L			06/28/20 06:30	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	810		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:25	1

Client Sample ID: MW-533-W-200624

Lab Sample ID: 410-5649-12

Date Collected: 06/24/20 10:03

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 04:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	100		80 - 120		07/08/20 04:01	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	98		80 - 120		07/08/20 04:01	1
<i>Dibromofluoromethane (Surr)</i>	89		80 - 120		07/08/20 04:01	1
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120		07/08/20 04:01	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1
Chrysene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/29/20 07:13	06/30/20 01:14	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/30/20 01:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	73		10 - 138	06/29/20 07:13	06/30/20 01:14	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-533-W-200624

Lab Sample ID: 410-5649-12

Date Collected: 06/24/20 10:03

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	61		15 - 121	06/29/20 07:13	06/30/20 01:14	1
Fluoranthene-d10 (Surr)	86		34 - 125	06/29/20 07:13	06/30/20 01:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	71		50 - 150		07/03/20 17:49	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 09:40	07/01/20 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	62		28 - 140	07/01/20 09:40	07/01/20 17:55	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/26/20 06:49	06/30/20 17:45	1
C24-C40	ND		260	100	ug/L		06/26/20 06:49	06/30/20 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0001		0 - 1	06/26/20 06:49	06/30/20 17:45	1
o-terphenyl (Surr)	49	X	50 - 150	06/26/20 06:49	06/30/20 17:45	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.31	J H	0.50	0.25	mg/L			06/28/20 06:48	5
Sulfate	2600	E	5.0	1.5	mg/L			06/28/20 06:48	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/29/20 18:21	07/14/20 17:36	1

Client Sample ID: MW-534-W-200624

Lab Sample ID: 410-5649-13

Date Collected: 06/24/20 09:13

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 04:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		07/08/20 04:24	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		07/08/20 04:24	1
Dibromofluoromethane (Surr)	90		80 - 120		07/08/20 04:24	1
4-Bromofluorobenzene (Surr)	94		80 - 120		07/08/20 04:24	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-534-W-200624

Lab Sample ID: 410-5649-13

Date Collected: 06/24/20 09:13

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1
Chrysene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		06/29/20 07:13	06/30/20 01:45	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	14		10 - 138	06/29/20 07:13	06/30/20 01:45	1
1-Methylnaphthalene-d10 (Surr)	64		15 - 121	06/29/20 07:13	06/30/20 01:45	1
Fluoranthene-d10 (Surr)	91		34 - 125	06/29/20 07:13	06/30/20 01:45	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	20	J	250	19	ug/L			07/03/20 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		07/03/20 18:12	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1100		25	15	ug/L		07/02/20 11:00	07/03/20 01:07	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	89		28 - 140	07/02/20 11:00	07/03/20 01:07	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/26/20 06:49	06/30/20 18:08	1
C24-C40	ND		250	100	ug/L		06/26/20 06:49	06/30/20 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.004		0 - 1	06/26/20 06:49	06/30/20 18:08	1
o-terphenyl (Surr)	60		50 - 150	06/26/20 06:49	06/30/20 18:08	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 07:07	5
Sulfate	360	E	5.0	1.5	mg/L			06/28/20 07:07	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	3900		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:16	1

Client Sample ID: DUP-3-WD-200624

Lab Sample ID: 410-5649-14

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 04:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: DUP-3-WD-200624

Lab Sample ID: 410-5649-14

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		07/08/20 04:46	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		07/08/20 04:46	1
Dibromofluoromethane (Surr)	90		80 - 120		07/08/20 04:46	1
4-Bromofluorobenzene (Surr)	95		80 - 120		07/08/20 04:46	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1
Chrysene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		06/29/20 07:13	06/30/20 02:15	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 02:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	65		10 - 138	06/29/20 07:13	06/30/20 02:15	1
1-Methylnaphthalene-d10 (Surr)	78		15 - 121	06/29/20 07:13	06/30/20 02:15	1
Fluoranthene-d10 (Surr)	101		34 - 125	06/29/20 07:13	06/30/20 02:15	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	45	J	250	19	ug/L			07/03/20 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		07/03/20 18:36	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1500		25	15	ug/L		07/02/20 11:00	07/03/20 01:30	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	86		28 - 140	07/02/20 11:00	07/03/20 01:30	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	59	J	100	46	ug/L		06/26/20 06:49	06/30/20 18:30	1
C24-C40	ND		250	100	ug/L		06/26/20 06:49	06/30/20 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.007		0 - 1	06/26/20 06:49	06/30/20 18:30	1
o-terphenyl (Surr)	59		50 - 150	06/26/20 06:49	06/30/20 18:30	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 00:15	5
Sulfate	170	E	5.0	1.5	mg/L			06/28/20 00:15	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7800		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 13:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: DUP-4-WD-200624

Lab Sample ID: 410-5649-15

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 05:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120					07/08/20 05:09	1
1,2-Dichloroethane-d4 (Surr)	96		80 - 120					07/08/20 05:09	1
Dibromofluoromethane (Surr)	89		80 - 120					07/08/20 05:09	1
4-Bromofluorobenzene (Surr)	96		80 - 120					07/08/20 05:09	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Chrysene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/29/20 07:13	06/30/20 02:46	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:13	06/30/20 02:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	76		10 - 138				06/29/20 07:13	06/30/20 02:46	1
1-Methylnaphthalene-d10 (Surr)	70		15 - 121				06/29/20 07:13	06/30/20 02:46	1
Fluoranthene-d10 (Surr)	96		34 - 125				06/29/20 07:13	06/30/20 02:46	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	950		250	19	ug/L			07/03/20 18:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150					07/03/20 18:59	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	970		25	15	ug/L		07/02/20 11:00	07/03/20 01:48	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	84		28 - 140				07/02/20 11:00	07/03/20 01:48	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	98	J	110	48	ug/L		06/26/20 06:49	06/30/20 18:53	1
C24-C40	ND		270	110	ug/L		06/26/20 06:49	06/30/20 18:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.04		0 - 1				06/26/20 06:49	06/30/20 18:53	1
o-terphenyl (Surr)	62		50 - 150				06/26/20 06:49	06/30/20 18:53	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			06/28/20 01:48	5
Sulfate	11		5.0	1.5	mg/L			06/28/20 01:48	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: DUP-4-WD-200624

Lab Sample ID: 410-5649-15

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	240		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 12:51	1

Client Sample ID: QA-T-200624

Lab Sample ID: 410-5649-16

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 01:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		07/08/20 01:46	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		07/08/20 01:46	1
Dibromofluoromethane (Surr)	90		80 - 120		07/08/20 01:46	1
4-Bromofluorobenzene (Surr)	95		80 - 120		07/08/20 01:46	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 12:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150		07/03/20 12:43	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (80-120)	DCA (80-120)	DBFM (80-120)	BFB (80-120)
410-5649-1	MW-101-W-200624	99	99	101	101
410-5649-2	MW-126-W-200624	99	99	101	100
410-5649-3	MW-129R-W-200624	99	99	101	101
410-5649-4	MW-139R-W-200624	99	100	101	100
410-5649-5	MW-143-W-200624	98	97	101	99
410-5649-6	MW-506-W-200624	99	100	102	100
410-5649-7	MW-507-W-200624	100	102	93	96
410-5649-8	MW-518-W-200624	100	98	91	97
410-5649-9	MW-519-W-200624	101	99	91	97
410-5649-10	MW-520-W-200624	97	97	89	96
410-5649-11	MW-531-W-200624	100	99	89	95
410-5649-12	MW-533-W-200624	100	98	89	95
410-5649-13	MW-534-W-200624	99	101	90	94
410-5649-14	DUP-3-WD-200624	100	101	90	95
410-5649-15	DUP-4-WD-200624	100	96	89	96
410-5649-16	QA-T-200624	101	95	90	95
LCS 410-19362/4	Lab Control Sample	101	99	100	102
LCS 410-20154/4	Lab Control Sample	100	98	89	100
LCS 410-19362/5	Lab Control Sample Dup	100	99	100	101
LCS 410-20154/5	Lab Control Sample Dup	102	95	86	99
MB 410-19362/7	Method Blank	99	100	100	100
MB 410-20154/7	Method Blank	100	99	90	97

Surrogate Legend

- TOL = Toluene-d8 (Surr)
- DCA = 1,2-Dichloroethane-d4 (Surr)
- DBFM = Dibromofluoromethane (Surr)
- BFB = 4-Bromofluorobenzene (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-5562-F-3-A MS	Matrix Spike	67	80	93
410-5562-F-3-B MSD	Matrix Spike Duplicate	64	78	91
410-5649-1	MW-101-W-200624	42	92	98
410-5649-2	MW-126-W-200624	71	71	88
410-5649-3	MW-129R-W-200624	82	79	107
410-5649-4	MW-139R-W-200624	64	71	86
410-5649-5	MW-143-W-200624	75	69	123
410-5649-6	MW-506-W-200624	57	77	103
410-5649-7	MW-507-W-200624	77	76	92
410-5649-8	MW-518-W-200624	54	71	87
410-5649-9	MW-519-W-200624	70	77	87
410-5649-10	MW-520-W-200624	81	77	93
410-5649-11	MW-531-W-200624	48	70	88
410-5649-12	MW-533-W-200624	73	61	86
410-5649-13	MW-534-W-200624	14	64	91

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-5649-14	DUP-3-WD-200624	65	78	101
410-5649-15	DUP-4-WD-200624	76	70	96
LCS 410-17383/2-A	Lab Control Sample	86	85	91
LCS 410-17461/2-A	Lab Control Sample	89	71	94
LCSD 410-17383/3-A	Lab Control Sample Dup	87	85	93
MB 410-17383/1-A	Method Blank	76	84	88
MB 410-17461/1-A	Method Blank	84	74	95

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)

MNPd10 = 1-Methylnaphthalene-d10 (Surr)

FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-150)
410-5649-1	MW-101-W-200624	84
410-5649-2	MW-126-W-200624	82
410-5649-3	MW-129R-W-200624	84
410-5649-4	MW-139R-W-200624	69
410-5649-5	MW-143-W-200624	83
410-5649-6	MW-506-W-200624	85
410-5649-7	MW-507-W-200624	73
410-5649-8	MW-518-W-200624	65
410-5649-9	MW-519-W-200624	82
410-5649-10	MW-520-W-200624	84
410-5649-11	MW-531-W-200624	83
410-5649-12	MW-533-W-200624	71
410-5649-13	MW-534-W-200624	83
410-5649-14	DUP-3-WD-200624	83
410-5649-15	DUP-4-WD-200624	82
410-5649-16	QA-T-200624	82
LCS 410-19262/5	Lab Control Sample	84
LCSD 410-19262/6	Lab Control Sample Dup	86
MB 410-19262/4	Method Blank	83

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		Propene1 (28-140)
410-5649-1	MW-101-W-200624	93
410-5649-2	MW-126-W-200624	74
410-5649-3	MW-129R-W-200624	82
410-5649-4	MW-139R-W-200624	65

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-5649-5	MW-143-W-200624	100
410-5649-6	MW-506-W-200624	95
410-5649-7	MW-507-W-200624	62
410-5649-8	MW-518-W-200624	84
410-5649-9	MW-519-W-200624	79
410-5649-10	MW-520-W-200624	76
410-5649-11	MW-531-W-200624	74
410-5649-12	MW-533-W-200624	62
410-5649-13	MW-534-W-200624	89
410-5649-14	DUP-3-WD-200624	86
410-5649-15	DUP-4-WD-200624	84
LCS 410-18513/2-A	Lab Control Sample	104
LCS 410-18625/2-A	Lab Control Sample	106
LCS 410-18996/2-A	Lab Control Sample	105
LCSD 410-18513/3-A	Lab Control Sample Dup	105
LCSD 410-18625/3-A	Lab Control Sample Dup	106
LCSD 410-18996/3-A	Lab Control Sample Dup	101
MB 410-18513/1-A	Method Blank	105
MB 410-18625/1-A	Method Blank	107
MB 410-18996/1-A	Method Blank	101

Surrogate Legend

Propene = Propene

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-5649-1	MW-101-W-200624	0.0003	65
410-5649-1 DU	MW-101-W-200624	0.02	53
410-5649-2	MW-126-W-200624	0.00008	53
410-5649-2 DU	MW-126-W-200624	0.02	63
410-5649-3	MW-129R-W-200624	0.006	60
410-5649-4	MW-139R-W-200624	0.0004	60
410-5649-5	MW-143-W-200624	0.002	66
410-5649-6	MW-506-W-200624	0.0005	65
410-5649-7	MW-507-W-200624	0.0006	61
410-5649-8	MW-518-W-200624	0.03	59
410-5649-9	MW-519-W-200624	0.001	55
410-5649-10	MW-520-W-200624	0.0001	65
410-5649-11	MW-531-W-200624	0.0004	55
410-5649-12	MW-533-W-200624	0.0001	49 X
410-5649-13	MW-534-W-200624	0.004	60
410-5649-14	DUP-3-WD-200624	0.007	59
410-5649-15	DUP-4-WD-200624	0.04	62
LCS 410-16966/2-B	Lab Control Sample	0.003	57
LCSD 410-16966/3-B	Lab Control Sample Dup	0.01	58
MB 410-16966/1-B	Method Blank	0.00001	46 X

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-19362/7
Matrix: Water
Analysis Batch: 19362

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/05/20 22:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120					07/05/20 22:10	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					07/05/20 22:10	1
Dibromofluoromethane (Surr)	100		80 - 120					07/05/20 22:10	1
4-Bromofluorobenzene (Surr)	100		80 - 120					07/05/20 22:10	1

Lab Sample ID: LCS 410-19362/4
Matrix: Water
Analysis Batch: 19362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	21.0		ug/L		105	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	101		80 - 120				
1,2-Dichloroethane-d4 (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	100		80 - 120				
4-Bromofluorobenzene (Surr)	102		80 - 120				

Lab Sample ID: LCSD 410-19362/5
Matrix: Water
Analysis Batch: 19362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.3		ug/L		101	80 - 120	4	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Toluene-d8 (Surr)	100		80 - 120						
1,2-Dichloroethane-d4 (Surr)	99		80 - 120						
Dibromofluoromethane (Surr)	100		80 - 120						
4-Bromofluorobenzene (Surr)	101		80 - 120						

Lab Sample ID: MB 410-20154/7
Matrix: Water
Analysis Batch: 20154

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/07/20 22:52	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120					07/07/20 22:52	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					07/07/20 22:52	1
Dibromofluoromethane (Surr)	90		80 - 120					07/07/20 22:52	1
4-Bromofluorobenzene (Surr)	97		80 - 120					07/07/20 22:52	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-20154/4
Matrix: Water
Analysis Batch: 20154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	22.5		ug/L		113	80 - 120
Surrogate							
	%Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	100		80 - 120				
1,2-Dichloroethane-d4 (Surr)	98		80 - 120				
Dibromofluoromethane (Surr)	89		80 - 120				
4-Bromofluorobenzene (Surr)	100		80 - 120				

Lab Sample ID: LCSD 410-20154/5
Matrix: Water
Analysis Batch: 20154

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	22.7		ug/L		114	80 - 120	1	30
Surrogate									
	%Recovery	LCSD Qualifier	Limits						
Toluene-d8 (Surr)	102		80 - 120						
1,2-Dichloroethane-d4 (Surr)	95		80 - 120						
Dibromofluoromethane (Surr)	86		80 - 120						
4-Bromofluorobenzene (Surr)	99		80 - 120						

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-17383/1-A
Matrix: Water
Analysis Batch: 18420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Chrysene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/28/20 12:13	07/01/20 09:06	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/28/20 12:13	07/01/20 09:06	1
Surrogate									
	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	76		10 - 138				06/28/20 12:13	07/01/20 09:06	1
1-Methylnaphthalene-d10 (Surr)	84		15 - 121				06/28/20 12:13	07/01/20 09:06	1
Fluoranthene-d10 (Surr)	88		34 - 125				06/28/20 12:13	07/01/20 09:06	1

Lab Sample ID: LCS 410-17383/2-A
Matrix: Water
Analysis Batch: 18420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	1.03		ug/L		103	61 - 117
Benzo[a]pyrene	1.00	1.02		ug/L		102	63 - 135

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-17383/2-A
Matrix: Water
Analysis Batch: 18420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	1.00	1.02		ug/L		101	66 - 138
Benzo[k]fluoranthene	1.00	0.951		ug/L		95	58 - 142
Chrysene	1.00	0.889		ug/L		89	61 - 117
Dibenz(a,h)anthracene	1.00	1.01		ug/L		101	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	1.08		ug/L		108	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	86		10 - 138
1-Methylnaphthalene-d10 (Surr)	85		15 - 121
Fluoranthene-d10 (Surr)	91		34 - 125

Lab Sample ID: LCSD 410-17383/3-A
Matrix: Water
Analysis Batch: 18420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	1.00	1.05		ug/L		105	61 - 117	2	30
Benzo[a]pyrene	1.00	1.03		ug/L		103	63 - 135	1	30
Benzo[b]fluoranthene	1.00	1.06		ug/L		106	66 - 138	4	30
Benzo[k]fluoranthene	1.00	0.999		ug/L		100	58 - 142	5	30
Chrysene	1.00	0.899		ug/L		90	61 - 117	1	30
Dibenz(a,h)anthracene	1.00	0.963		ug/L		96	51 - 139	5	30
Indeno[1,2,3-cd]pyrene	1.00	1.04		ug/L		104	56 - 147	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	87		10 - 138
1-Methylnaphthalene-d10 (Surr)	85		15 - 121
Fluoranthene-d10 (Surr)	93		34 - 125

Lab Sample ID: MB 410-17461/1-A
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Chrysene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/29/20 07:13	06/29/20 23:43	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	84		10 - 138	06/29/20 07:13	06/29/20 23:43	1
1-Methylnaphthalene-d10 (Surr)	74		15 - 121	06/29/20 07:13	06/29/20 23:43	1
Fluoranthene-d10 (Surr)	95		34 - 125	06/29/20 07:13	06/29/20 23:43	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-17461/2-A
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.998		ug/L		100	61 - 117
Benzo[a]pyrene	1.00	0.985		ug/L		98	63 - 135
Benzo[b]fluoranthene	1.00	1.07		ug/L		106	66 - 138
Benzo[k]fluoranthene	1.00	0.921		ug/L		92	58 - 142
Chrysene	1.00	0.847		ug/L		85	61 - 117
Dibenz(a,h)anthracene	1.00	0.994		ug/L		99	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	1.05		ug/L		105	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	89		10 - 138
1-Methylnaphthalene-d10 (Surr)	71		15 - 121
Fluoranthene-d10 (Surr)	94		34 - 125

Lab Sample ID: 410-5562-F-3-A MS
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 17461

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	ND		1.01	0.993		ug/L		98	61 - 117
Benzo[a]pyrene	ND		1.02	0.732		ug/L		72	63 - 135
Benzo[b]fluoranthene	ND		1.02	0.996		ug/L		98	66 - 138
Benzo[k]fluoranthene	ND		1.01	0.849		ug/L		84	58 - 142
Chrysene	ND		1.01	0.866		ug/L		86	61 - 117
Dibenz(a,h)anthracene	ND		1.02	0.907		ug/L		89	51 - 139
Indeno[1,2,3-cd]pyrene	ND		1.02	0.965		ug/L		95	56 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	67		10 - 138
1-Methylnaphthalene-d10 (Surr)	80		15 - 121
Fluoranthene-d10 (Surr)	93		34 - 125

Lab Sample ID: 410-5562-F-3-B MSD
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 17461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	ND		1.02	0.991		ug/L		97	61 - 117	0	30
Benzo[a]pyrene	ND		1.02	0.729		ug/L		72	63 - 135	0	30
Benzo[b]fluoranthene	ND		1.02	0.893		ug/L		88	66 - 138	11	30
Benzo[k]fluoranthene	ND		1.02	0.874		ug/L		86	58 - 142	3	30
Chrysene	ND		1.02	0.859		ug/L		84	61 - 117	1	30
Dibenz(a,h)anthracene	ND		1.02	0.867		ug/L		85	51 - 139	4	30
Indeno[1,2,3-cd]pyrene	ND		1.02	0.924		ug/L		91	56 - 147	4	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	64		10 - 138
1-Methylnaphthalene-d10 (Surr)	78		15 - 121

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-5562-F-3-B MSD
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 17461

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Fluoranthene-d10 (Surr)	91		34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-19262/4
Matrix: Water
Analysis Batch: 19262

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/03/20 11:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		07/03/20 11:34	1			

Lab Sample ID: LCS 410-19262/5
Matrix: Water
Analysis Batch: 19262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1130		ug/L		103	64 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150				

Lab Sample ID: LCSD 410-19262/6
Matrix: Water
Analysis Batch: 19262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1140		ug/L		104	64 - 131	1	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150						

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-18513/1-A
Matrix: Water
Analysis Batch: 18516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 09:40	07/01/20 14:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	105		28 - 140		07/01/20 09:40	07/01/20 14:34	1		

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 410-18513/2-A
Matrix: Water
Analysis Batch: 18516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	63.4		ug/L		107	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	104		28 - 140				

Lab Sample ID: LCSD 410-18513/3-A
Matrix: Water
Analysis Batch: 18516

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	64.9		ug/L		109	85 - 115	2	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	105		28 - 140						

Lab Sample ID: MB 410-18625/1-A
Matrix: Water
Analysis Batch: 18526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18625

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/01/20 14:03	07/01/20 14:34	1
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	107		28 - 140	07/01/20 14:03	07/01/20 14:34	1			

Lab Sample ID: LCS 410-18625/2-A
Matrix: Water
Analysis Batch: 18526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	64.5		ug/L		109	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	106		28 - 140				

Lab Sample ID: LCSD 410-18625/3-A
Matrix: Water
Analysis Batch: 18526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18625

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	65.2		ug/L		110	85 - 115	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	106		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 410-18996/1-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/02/20 11:00	07/02/20 18:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	101		28 - 140				07/02/20 11:00	07/02/20 18:54	1

Lab Sample ID: LCS 410-18996/2-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Methane (1C)	59.4	65.7		ug/L		111	85 - 115	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
Propene (1C)	105		28 - 140					

Lab Sample ID: LCSD 410-18996/3-A
Matrix: Water
Analysis Batch: 18982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18996

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	64.8		ug/L		109	85 - 115	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Propene (1C)	101		28 - 140						

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-16966/1-B
Matrix: Water
Analysis Batch: 17844

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/26/20 06:49	06/30/20 10:58	1
C24-C40	ND		250	100	ug/L		06/26/20 06:49	06/30/20 10:58	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.00001		0 - 1				06/26/20 06:49	06/30/20 10:58	1
o-terphenyl (Surr)	46	X	50 - 150				06/26/20 06:49	06/30/20 10:58	1

Lab Sample ID: LCS 410-16966/2-B
Matrix: Water
Analysis Batch: 17844

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
C12-C24	600	236		ug/L		39	10 - 115	

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-16966/2-B
Matrix: Water
Analysis Batch: 17844

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16966

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.003		0 - 1
<i>o-terphenyl (Surr)</i>	57		50 - 150

Lab Sample ID: LCSD 410-16966/3-B
Matrix: Water
Analysis Batch: 17844

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16966

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	600	247		ug/L		41	10 - 115	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.01		0 - 1
<i>o-terphenyl (Surr)</i>	58		50 - 150

Lab Sample ID: 410-5649-1 DU
Matrix: Water
Analysis Batch: 17844

Client Sample ID: MW-101-W-200624
Prep Type: Total/NA
Prep Batch: 16966

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.02		0 - 1
<i>o-terphenyl (Surr)</i>	53		50 - 150

Lab Sample ID: 410-5649-2 DU
Matrix: Water
Analysis Batch: 17844

Client Sample ID: MW-126-W-200624
Prep Type: Total/NA
Prep Batch: 16966

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.02		0 - 1
<i>o-terphenyl (Surr)</i>	63		50 - 150

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 410-19988/4
Matrix: Water
Analysis Batch: 19988

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			06/27/20 18:37	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 410-19988/50
Matrix: Water
Analysis Batch: 19988

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			06/27/20 23:56	1

Lab Sample ID: LCS 410-19988/49
Matrix: Water
Analysis Batch: 19988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.75		mg/L		103	90 - 110

Lab Sample ID: 410-5649-14 MS
Matrix: Water
Analysis Batch: 19988

Client Sample ID: DUP-3-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	170	E	25.0	200	E 4	mg/L		118	90 - 110

Lab Sample ID: 410-5649-15 MS
Matrix: Water
Analysis Batch: 19988

Client Sample ID: DUP-4-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	11		25.0	37.1		mg/L		103	90 - 110

Lab Sample ID: 410-5649-14 DU
Matrix: Water
Analysis Batch: 19988

Client Sample ID: DUP-3-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	170	E	171	E	mg/L		0.4	15

Lab Sample ID: 410-5649-15 DU
Matrix: Water
Analysis Batch: 19988

Client Sample ID: DUP-4-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	11		11.1		mg/L		3	15

Lab Sample ID: MB 410-19989/50
Matrix: Water
Analysis Batch: 19989

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			06/27/20 23:56	1

Lab Sample ID: LCS 410-19989/49
Matrix: Water
Analysis Batch: 19989

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.699		mg/L		93	90 - 110

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 410-5649-14 MS
Matrix: Water
Analysis Batch: 19989

Client Sample ID: DUP-3-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H	2.50	2.39		mg/L		96	90 - 110

Lab Sample ID: 410-5649-15 MS
Matrix: Water
Analysis Batch: 19989

Client Sample ID: DUP-4-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H	2.50	2.38		mg/L		95	90 - 110

Lab Sample ID: 410-5649-14 DU
Matrix: Water
Analysis Batch: 19989

Client Sample ID: DUP-3-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H	ND		mg/L		NC	15

Lab Sample ID: 410-5649-15 DU
Matrix: Water
Analysis Batch: 19989

Client Sample ID: DUP-4-WD-200624
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H	ND		mg/L		NC	15

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-17092/1-A
Matrix: Water
Analysis Batch: 22410

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17092

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/26/20 10:01	07/14/20 14:40	1

Lab Sample ID: LCS 410-17092/2-A
Matrix: Water
Analysis Batch: 22410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17092

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	48.9		ug/L		97	85 - 115

Lab Sample ID: MB 410-17779/1-A
Matrix: Water
Analysis Batch: 21324

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17779

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/29/20 18:21	07/10/20 12:47	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-17779/2-A
Matrix: Water
Analysis Batch: 21324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17779

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	51.8		ug/L		103	85 - 115

Lab Sample ID: MB 410-18654/1-A
Matrix: Water
Analysis Batch: 22862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18654

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		07/01/20 16:32	07/15/20 11:31	1

Lab Sample ID: LCS 410-18654/2-A
Matrix: Water
Analysis Batch: 22862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18654

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	54.1		ug/L		108	85 - 115

Lab Sample ID: 410-5705-L-1-A MS
Matrix: Water
Analysis Batch: 22410

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 17092

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	770		50.2	835	4	ug/L		133	70 - 130

Lab Sample ID: 410-5705-M-1-A DU
Matrix: Water
Analysis Batch: 22410

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 17092

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	770		782		ug/L		2	20

Lab Sample ID: 410-5649-15 MS
Matrix: Water
Analysis Batch: 21324

Client Sample ID: DUP-4-WD-200624
Prep Type: Dissolved
Prep Batch: 17779

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	240		50.2	286	4	ug/L		102	70 - 130

Lab Sample ID: 410-5649-15 DU
Matrix: Water
Analysis Batch: 21324

Client Sample ID: DUP-4-WD-200624
Prep Type: Dissolved
Prep Batch: 17779

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	240		236		ug/L		0.3	20

Lab Sample ID: 410-5649-2 MS
Matrix: Water
Analysis Batch: 22862

Client Sample ID: MW-126-W-200624
Prep Type: Dissolved
Prep Batch: 18654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	47		50.2	99.4		ug/L		104	70 - 130

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: 410-5649-2 MSD
Matrix: Water
Analysis Batch: 22862

Client Sample ID: MW-126-W-200624
Prep Type: Dissolved
Prep Batch: 18654

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	47		50.2	99.4		ug/L		103	70 - 130	0	20

Lab Sample ID: 410-5649-2 DU
Matrix: Water
Analysis Batch: 22862

Client Sample ID: MW-126-W-200624
Prep Type: Dissolved
Prep Batch: 18654

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	47		46.4		ug/L		2	20



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

GC/MS VOA

Analysis Batch: 19362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	8260B	
410-5649-2	MW-126-W-200624	Total/NA	Water	8260B	
410-5649-3	MW-129R-W-200624	Total/NA	Water	8260B	
410-5649-4	MW-139R-W-200624	Total/NA	Water	8260B	
410-5649-5	MW-143-W-200624	Total/NA	Water	8260B	
410-5649-6	MW-506-W-200624	Total/NA	Water	8260B	
MB 410-19362/7	Method Blank	Total/NA	Water	8260B	
LCS 410-19362/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 410-19362/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 20154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-7	MW-507-W-200624	Total/NA	Water	8260B	
410-5649-8	MW-518-W-200624	Total/NA	Water	8260B	
410-5649-9	MW-519-W-200624	Total/NA	Water	8260B	
410-5649-10	MW-520-W-200624	Total/NA	Water	8260B	
410-5649-11	MW-531-W-200624	Total/NA	Water	8260B	
410-5649-12	MW-533-W-200624	Total/NA	Water	8260B	
410-5649-13	MW-534-W-200624	Total/NA	Water	8260B	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	8260B	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	8260B	
410-5649-16	QA-T-200624	Total/NA	Water	8260B	
MB 410-20154/7	Method Blank	Total/NA	Water	8260B	
LCS 410-20154/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 410-20154/5	Lab Control Sample Dup	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 17383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	3510C	
410-5649-2	MW-126-W-200624	Total/NA	Water	3510C	
410-5649-3	MW-129R-W-200624	Total/NA	Water	3510C	
410-5649-4	MW-139R-W-200624	Total/NA	Water	3510C	
410-5649-5	MW-143-W-200624	Total/NA	Water	3510C	
410-5649-6	MW-506-W-200624	Total/NA	Water	3510C	
410-5649-7	MW-507-W-200624	Total/NA	Water	3510C	
410-5649-8	MW-518-W-200624	Total/NA	Water	3510C	
410-5649-9	MW-519-W-200624	Total/NA	Water	3510C	
410-5649-10	MW-520-W-200624	Total/NA	Water	3510C	
MB 410-17383/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-17383/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-17383/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 17461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-11	MW-531-W-200624	Total/NA	Water	3510C	
410-5649-12	MW-533-W-200624	Total/NA	Water	3510C	
410-5649-13	MW-534-W-200624	Total/NA	Water	3510C	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	3510C	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	3510C	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

GC/MS Semi VOA (Continued)

Prep Batch: 17461 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-17461/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-17461/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-5562-F-3-A MS	Matrix Spike	Total/NA	Water	3510C	
410-5562-F-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

Analysis Batch: 17764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-11	MW-531-W-200624	Total/NA	Water	8270D SIM	17461
410-5649-12	MW-533-W-200624	Total/NA	Water	8270D SIM	17461
410-5649-13	MW-534-W-200624	Total/NA	Water	8270D SIM	17461
410-5649-14	DUP-3-WD-200624	Total/NA	Water	8270D SIM	17461
410-5649-15	DUP-4-WD-200624	Total/NA	Water	8270D SIM	17461
MB 410-17461/1-A	Method Blank	Total/NA	Water	8270D SIM	17461
LCS 410-17461/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	17461
410-5562-F-3-A MS	Matrix Spike	Total/NA	Water	8270D SIM	17461
410-5562-F-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270D SIM	17461

Analysis Batch: 18420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-2	MW-126-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-3	MW-129R-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-4	MW-139R-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-5	MW-143-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-6	MW-506-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-7	MW-507-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-8	MW-518-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-9	MW-519-W-200624	Total/NA	Water	8270D SIM	17383
410-5649-10	MW-520-W-200624	Total/NA	Water	8270D SIM	17383
MB 410-17383/1-A	Method Blank	Total/NA	Water	8270D SIM	17383
LCS 410-17383/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	17383
LCSD 410-17383/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	17383

GC VOA

Prep Batch: 18513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-9	MW-519-W-200624	Total/NA	Water	RSK-175	
410-5649-10	MW-520-W-200624	Total/NA	Water	RSK-175	
410-5649-11	MW-531-W-200624	Total/NA	Water	RSK-175	
410-5649-12	MW-533-W-200624	Total/NA	Water	RSK-175	
MB 410-18513/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-18513/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-18513/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 18516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-9	MW-519-W-200624	Total/NA	Water	RSK-175	18513
410-5649-10	MW-520-W-200624	Total/NA	Water	RSK-175	18513
410-5649-11	MW-531-W-200624	Total/NA	Water	RSK-175	18513
410-5649-12	MW-533-W-200624	Total/NA	Water	RSK-175	18513

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

GC VOA (Continued)

Analysis Batch: 18516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-18513/1-A	Method Blank	Total/NA	Water	RSK-175	18513
LCS 410-18513/2-A	Lab Control Sample	Total/NA	Water	RSK-175	18513
LCSD 410-18513/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	18513

Analysis Batch: 18526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-2	MW-126-W-200624	Total/NA	Water	RSK-175	18625
410-5649-4	MW-139R-W-200624	Total/NA	Water	RSK-175	18625
410-5649-7	MW-507-W-200624	Total/NA	Water	RSK-175	18625
MB 410-18625/1-A	Method Blank	Total/NA	Water	RSK-175	18625
LCS 410-18625/2-A	Lab Control Sample	Total/NA	Water	RSK-175	18625
LCSD 410-18625/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	18625

Prep Batch: 18625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-2	MW-126-W-200624	Total/NA	Water	RSK-175	
410-5649-4	MW-139R-W-200624	Total/NA	Water	RSK-175	
410-5649-7	MW-507-W-200624	Total/NA	Water	RSK-175	
MB 410-18625/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-18625/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-18625/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 18982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	RSK-175	18996
410-5649-3	MW-129R-W-200624	Total/NA	Water	RSK-175	18996
410-5649-5	MW-143-W-200624	Total/NA	Water	RSK-175	18996
410-5649-6	MW-506-W-200624	Total/NA	Water	RSK-175	18996
410-5649-8	MW-518-W-200624	Total/NA	Water	RSK-175	18996
410-5649-13	MW-534-W-200624	Total/NA	Water	RSK-175	18996
410-5649-14	DUP-3-WD-200624	Total/NA	Water	RSK-175	18996
410-5649-15	DUP-4-WD-200624	Total/NA	Water	RSK-175	18996
MB 410-18996/1-A	Method Blank	Total/NA	Water	RSK-175	18996
LCS 410-18996/2-A	Lab Control Sample	Total/NA	Water	RSK-175	18996
LCSD 410-18996/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	18996

Prep Batch: 18996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	RSK-175	
410-5649-3	MW-129R-W-200624	Total/NA	Water	RSK-175	
410-5649-5	MW-143-W-200624	Total/NA	Water	RSK-175	
410-5649-6	MW-506-W-200624	Total/NA	Water	RSK-175	
410-5649-8	MW-518-W-200624	Total/NA	Water	RSK-175	
410-5649-13	MW-534-W-200624	Total/NA	Water	RSK-175	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	RSK-175	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	RSK-175	
MB 410-18996/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-18996/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-18996/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

GC VOA

Analysis Batch: 19262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-2	MW-126-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-3	MW-129R-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-4	MW-139R-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-5	MW-143-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-6	MW-506-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-7	MW-507-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-8	MW-518-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-9	MW-519-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-10	MW-520-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-11	MW-531-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-12	MW-533-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-13	MW-534-W-200624	Total/NA	Water	NWTPH-Gx	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	NWTPH-Gx	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	NWTPH-Gx	
410-5649-16	QA-T-200624	Total/NA	Water	NWTPH-Gx	
MB 410-19262/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-19262/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-19262/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 16966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	3510C	
410-5649-2	MW-126-W-200624	Total/NA	Water	3510C	
410-5649-3	MW-129R-W-200624	Total/NA	Water	3510C	
410-5649-4	MW-139R-W-200624	Total/NA	Water	3510C	
410-5649-5	MW-143-W-200624	Total/NA	Water	3510C	
410-5649-6	MW-506-W-200624	Total/NA	Water	3510C	
410-5649-7	MW-507-W-200624	Total/NA	Water	3510C	
410-5649-8	MW-518-W-200624	Total/NA	Water	3510C	
410-5649-9	MW-519-W-200624	Total/NA	Water	3510C	
410-5649-10	MW-520-W-200624	Total/NA	Water	3510C	
410-5649-11	MW-531-W-200624	Total/NA	Water	3510C	
410-5649-12	MW-533-W-200624	Total/NA	Water	3510C	
410-5649-13	MW-534-W-200624	Total/NA	Water	3510C	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	3510C	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	3510C	
MB 410-16966/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-16966/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-16966/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-5649-1 DU	MW-101-W-200624	Total/NA	Water	3510C	
410-5649-2 DU	MW-126-W-200624	Total/NA	Water	3510C	

Cleanup Batch: 17269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	3630C	16966
410-5649-2	MW-126-W-200624	Total/NA	Water	3630C	16966
410-5649-3	MW-129R-W-200624	Total/NA	Water	3630C	16966
410-5649-4	MW-139R-W-200624	Total/NA	Water	3630C	16966

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

GC Semi VOA (Continued)

Cleanup Batch: 17269 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-5	MW-143-W-200624	Total/NA	Water	3630C	16966
410-5649-6	MW-506-W-200624	Total/NA	Water	3630C	16966
410-5649-7	MW-507-W-200624	Total/NA	Water	3630C	16966
410-5649-8	MW-518-W-200624	Total/NA	Water	3630C	16966
410-5649-9	MW-519-W-200624	Total/NA	Water	3630C	16966
410-5649-10	MW-520-W-200624	Total/NA	Water	3630C	16966
410-5649-11	MW-531-W-200624	Total/NA	Water	3630C	16966
410-5649-12	MW-533-W-200624	Total/NA	Water	3630C	16966
410-5649-13	MW-534-W-200624	Total/NA	Water	3630C	16966
410-5649-14	DUP-3-WD-200624	Total/NA	Water	3630C	16966
410-5649-15	DUP-4-WD-200624	Total/NA	Water	3630C	16966
MB 410-16966/1-B	Method Blank	Total/NA	Water	3630C	16966
LCS 410-16966/2-B	Lab Control Sample	Total/NA	Water	3630C	16966
LCSD 410-16966/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	16966
410-5649-1 DU	MW-101-W-200624	Total/NA	Water	3630C	16966
410-5649-2 DU	MW-126-W-200624	Total/NA	Water	3630C	16966

Analysis Batch: 17844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-2	MW-126-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-3	MW-129R-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-4	MW-139R-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-5	MW-143-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-6	MW-506-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-7	MW-507-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-8	MW-518-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-9	MW-519-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-10	MW-520-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-11	MW-531-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-12	MW-533-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-13	MW-534-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-14	DUP-3-WD-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-15	DUP-4-WD-200624	Total/NA	Water	NWTPH-Dx	17269
MB 410-16966/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	17269
LCS 410-16966/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	17269
LCSD 410-16966/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	17269
410-5649-1 DU	MW-101-W-200624	Total/NA	Water	NWTPH-Dx	17269
410-5649-2 DU	MW-126-W-200624	Total/NA	Water	NWTPH-Dx	17269

HPLC/IC

Analysis Batch: 19988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	300.0	
410-5649-2	MW-126-W-200624	Total/NA	Water	300.0	
410-5649-3	MW-129R-W-200624	Total/NA	Water	300.0	
410-5649-4	MW-139R-W-200624	Total/NA	Water	300.0	
410-5649-5	MW-143-W-200624	Total/NA	Water	300.0	
410-5649-6	MW-506-W-200624	Total/NA	Water	300.0	
410-5649-7	MW-507-W-200624	Total/NA	Water	300.0	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

HPLC/IC (Continued)

Analysis Batch: 19988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-8	MW-518-W-200624	Total/NA	Water	300.0	
410-5649-9	MW-519-W-200624	Total/NA	Water	300.0	
410-5649-10	MW-520-W-200624	Total/NA	Water	300.0	
410-5649-11	MW-531-W-200624	Total/NA	Water	300.0	
410-5649-12	MW-533-W-200624	Total/NA	Water	300.0	
410-5649-13	MW-534-W-200624	Total/NA	Water	300.0	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	300.0	
MB 410-19988/4	Method Blank	Total/NA	Water	300.0	
MB 410-19988/50	Method Blank	Total/NA	Water	300.0	
LCS 410-19988/49	Lab Control Sample	Total/NA	Water	300.0	
410-5649-14 MS	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15 MS	DUP-4-WD-200624	Total/NA	Water	300.0	
410-5649-14 DU	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15 DU	DUP-4-WD-200624	Total/NA	Water	300.0	

Analysis Batch: 19989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Total/NA	Water	300.0	
410-5649-2	MW-126-W-200624	Total/NA	Water	300.0	
410-5649-3	MW-129R-W-200624	Total/NA	Water	300.0	
410-5649-4	MW-139R-W-200624	Total/NA	Water	300.0	
410-5649-5	MW-143-W-200624	Total/NA	Water	300.0	
410-5649-6	MW-506-W-200624	Total/NA	Water	300.0	
410-5649-7	MW-507-W-200624	Total/NA	Water	300.0	
410-5649-8	MW-518-W-200624	Total/NA	Water	300.0	
410-5649-9	MW-519-W-200624	Total/NA	Water	300.0	
410-5649-10	MW-520-W-200624	Total/NA	Water	300.0	
410-5649-11	MW-531-W-200624	Total/NA	Water	300.0	
410-5649-12	MW-533-W-200624	Total/NA	Water	300.0	
410-5649-13	MW-534-W-200624	Total/NA	Water	300.0	
410-5649-14	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15	DUP-4-WD-200624	Total/NA	Water	300.0	
MB 410-19989/50	Method Blank	Total/NA	Water	300.0	
LCS 410-19989/49	Lab Control Sample	Total/NA	Water	300.0	
410-5649-14 MS	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15 MS	DUP-4-WD-200624	Total/NA	Water	300.0	
410-5649-14 DU	DUP-3-WD-200624	Total/NA	Water	300.0	
410-5649-15 DU	DUP-4-WD-200624	Total/NA	Water	300.0	

Metals

Prep Batch: 17092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-3	MW-129R-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-4	MW-139R-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-5	MW-143-W-200624	Dissolved	Water	Non-Digest Prep	
MB 410-17092/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-17092/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-5705-L-1-A MS	Matrix Spike	Dissolved	Water	Non-Digest Prep	

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Metals (Continued)

Prep Batch: 17092 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5705-M-1-A DU	Duplicate	Dissolved	Water	Non-Digest Prep	

Prep Batch: 17779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-6	MW-506-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-7	MW-507-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-8	MW-518-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-9	MW-519-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-10	MW-520-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-11	MW-531-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-12	MW-533-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-13	MW-534-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-14	DUP-3-WD-200624	Dissolved	Water	Non-Digest Prep	
410-5649-15	DUP-4-WD-200624	Dissolved	Water	Non-Digest Prep	
MB 410-17779/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-17779/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-5649-15 MS	DUP-4-WD-200624	Dissolved	Water	Non-Digest Prep	
410-5649-15 DU	DUP-4-WD-200624	Dissolved	Water	Non-Digest Prep	

Prep Batch: 18654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-2	MW-126-W-200624	Dissolved	Water	Non-Digest Prep	
MB 410-18654/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-18654/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-5649-2 MS	MW-126-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-2 MSD	MW-126-W-200624	Dissolved	Water	Non-Digest Prep	
410-5649-2 DU	MW-126-W-200624	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 21324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-6	MW-506-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-7	MW-507-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-8	MW-518-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-9	MW-519-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-10	MW-520-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-11	MW-531-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-13	MW-534-W-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-14	DUP-3-WD-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-15	DUP-4-WD-200624	Dissolved	Water	200.8 Rev 5.4	17779
MB 410-17779/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	17779
LCS 410-17779/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	17779
410-5649-15 MS	DUP-4-WD-200624	Dissolved	Water	200.8 Rev 5.4	17779
410-5649-15 DU	DUP-4-WD-200624	Dissolved	Water	200.8 Rev 5.4	17779

Analysis Batch: 22410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-1	MW-101-W-200624	Dissolved	Water	200.8 Rev 5.4	17092
410-5649-3	MW-129R-W-200624	Dissolved	Water	200.8 Rev 5.4	17092
410-5649-4	MW-139R-W-200624	Dissolved	Water	200.8 Rev 5.4	17092
410-5649-5	MW-143-W-200624	Dissolved	Water	200.8 Rev 5.4	17092
MB 410-17092/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	17092

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Metals (Continued)

Analysis Batch: 22410 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-17092/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	17092
410-5705-L-1-A MS	Matrix Spike	Dissolved	Water	200.8 Rev 5.4	17092
410-5705-M-1-A DU	Duplicate	Dissolved	Water	200.8 Rev 5.4	17092

Analysis Batch: 22620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-12	MW-533-W-200624	Dissolved	Water	200.8 Rev 5.4	17779

Analysis Batch: 22862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5649-2	MW-126-W-200624	Dissolved	Water	200.8 Rev 5.4	18654
MB 410-18654/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	18654
LCS 410-18654/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	18654
410-5649-2 MS	MW-126-W-200624	Dissolved	Water	200.8 Rev 5.4	18654
410-5649-2 MSD	MW-126-W-200624	Dissolved	Water	200.8 Rev 5.4	18654
410-5649-2 DU	MW-126-W-200624	Dissolved	Water	200.8 Rev 5.4	18654

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-101-W-200624

Lab Sample ID: 410-5649-1

Date Collected: 06/24/20 13:33

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 02:17	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 15:14	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 13:07	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		20	18982	07/02/20 22:49	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 13:13	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 03:03	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 03:03	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17092	06/26/20 10:01	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22410	07/14/20 15:38	S2GN	ELLE

Client Sample ID: MW-126-W-200624

Lab Sample ID: 410-5649-2

Date Collected: 06/24/20 12:32

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 02:39	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 15:42	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 13:31	UMDJ	ELLE
Total/NA	Prep	RSK-175			18625	07/01/20 14:03	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18526	07/01/20 18:16	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 12:28	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 03:22	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 03:22	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			18654	07/01/20 16:32	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22862	07/15/20 11:36	S2GN	ELLE

Client Sample ID: MW-129R-W-200624

Lab Sample ID: 410-5649-3

Date Collected: 06/24/20 09:31

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 03:01	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 16:10	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 13:54	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	18982	07/02/20 23:48	IYN5	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-129R-W-200624

Lab Sample ID: 410-5649-3

Date Collected: 06/24/20 09:31

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 13:36	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 03:41	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 03:41	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17092	06/26/20 10:01	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22410	07/14/20 15:40	S2GN	ELLE

Client Sample ID: MW-139R-W-200624

Lab Sample ID: 410-5649-4

Date Collected: 06/24/20 11:13

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 03:23	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 16:39	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 14:18	UMDJ	ELLE
Total/NA	Prep	RSK-175			18625	07/01/20 14:03	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18526	07/01/20 18:54	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 13:58	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 04:00	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 04:00	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17092	06/26/20 10:01	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22410	07/14/20 15:43	S2GN	ELLE

Client Sample ID: MW-143-W-200624

Lab Sample ID: 410-5649-5

Date Collected: 06/24/20 11:22

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 03:45	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 17:07	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 14:41	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		50	18982	07/03/20 00:08	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 14:21	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 04:56	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 04:56	GJ35	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-143-W-200624

Lab Sample ID: 410-5649-5

Date Collected: 06/24/20 11:22

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			17092	06/26/20 10:01	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22410	07/14/20 15:45	S2GN	ELLE

Client Sample ID: MW-506-W-200624

Lab Sample ID: 410-5649-6

Date Collected: 06/24/20 11:21

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	19362	07/06/20 04:07	MJ8R	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 17:35	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 15:05	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		20	18982	07/03/20 00:27	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 15:29	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 05:15	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 05:15	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:03	S2GN	ELLE

Client Sample ID: MW-507-W-200624

Lab Sample ID: 410-5649-7

Date Collected: 06/24/20 12:51

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 02:08	TQ4J	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 18:04	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 15:29	UMDJ	ELLE
Total/NA	Prep	RSK-175			18625	07/01/20 14:03	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18526	07/01/20 19:50	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 15:52	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 05:33	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 05:33	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:18	S2GN	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-518-W-200624

Lab Sample ID: 410-5649-8

Date Collected: 06/24/20 12:13

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 02:31	TQ4J	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 18:32	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 15:52	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	18982	07/03/20 00:47	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 16:14	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 05:52	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 05:52	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:14	S2GN	ELLE

Client Sample ID: MW-519-W-200624

Lab Sample ID: 410-5649-9

Date Collected: 06/24/20 09:52

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 02:53	TQ4J	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 19:00	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 16:15	UMDJ	ELLE
Total/NA	Prep	RSK-175			18513	07/01/20 09:40	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18516	07/01/20 16:42	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 16:37	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 02:45	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 02:45	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:05	S2GN	ELLE

Client Sample ID: MW-520-W-200624

Lab Sample ID: 410-5649-10

Date Collected: 06/24/20 13:22

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 03:16	TQ4J	ELLE
Total/NA	Prep	3510C			17383	06/28/20 12:13	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	18420	07/01/20 19:29	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 17:03	UMDJ	ELLE
Total/NA	Prep	RSK-175			18513	07/01/20 09:40	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18516	07/01/20 17:00	IYN5	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-520-W-200624

Lab Sample ID: 410-5649-10

Date Collected: 06/24/20 13:22

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 17:00	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 06:11	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 06:11	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:07	S2GN	ELLE

Client Sample ID: MW-531-W-200624

Lab Sample ID: 410-5649-11

Date Collected: 06/24/20 09:02

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 03:39	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 00:44	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 17:26	UMDJ	ELLE
Total/NA	Prep	RSK-175			18513	07/01/20 09:40	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18516	07/01/20 17:18	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 17:22	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 06:30	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 06:30	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:25	S2GN	ELLE

Client Sample ID: MW-533-W-200624

Lab Sample ID: 410-5649-12

Date Collected: 06/24/20 10:03

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 04:01	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 01:14	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 17:49	UMDJ	ELLE
Total/NA	Prep	RSK-175			18513	07/01/20 09:40	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	18516	07/01/20 17:55	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 17:45	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 06:48	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 06:48	GJ35	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: MW-533-W-200624

Lab Sample ID: 410-5649-12

Date Collected: 06/24/20 10:03

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22620	07/14/20 17:36	S2GN	ELLE

Client Sample ID: MW-534-W-200624

Lab Sample ID: 410-5649-13

Date Collected: 06/24/20 09:13

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 04:24	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 01:45	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 18:12	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	18982	07/03/20 01:07	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 18:08	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 07:07	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 07:07	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:16	S2GN	ELLE

Client Sample ID: DUP-3-WD-200624

Lab Sample ID: 410-5649-14

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 04:46	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 02:15	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 18:36	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	18982	07/03/20 01:30	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 18:30	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 00:15	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 00:15	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 13:20	S2GN	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Client Sample ID: DUP-4-WD-200624

Lab Sample ID: 410-5649-15

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 05:09	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 02:46	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 18:59	UMDJ	ELLE
Total/NA	Prep	RSK-175			18996	07/02/20 11:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	18982	07/03/20 01:48	IYN5	ELLE
Total/NA	Prep	3510C			16966	06/26/20 06:49	C4EI	ELLE
Total/NA	Cleanup	3630C			17269	06/27/20 01:44	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	17844	06/30/20 18:53	IUSB	ELLE
Total/NA	Analysis	300.0		5	19988	06/28/20 01:48	GJ35	ELLE
Total/NA	Analysis	300.0		5	19989	06/28/20 01:48	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			17779	06/29/20 18:21	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	21324	07/10/20 12:51	S2GN	ELLE

Client Sample ID: QA-T-200624

Lab Sample ID: 410-5649-16

Date Collected: 06/24/20 00:00

Matrix: Water

Date Received: 06/25/20 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20154	07/08/20 01:46	TQ4J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	19262	07/03/20 12:43	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	Benzene
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
300.0	Anions, Ion Chromatography	MCAWW	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030B	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5649-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-5649-1	MW-101-W-200624	Water	06/24/20 13:33	06/25/20 10:27	
410-5649-2	MW-126-W-200624	Water	06/24/20 12:32	06/25/20 10:27	
410-5649-3	MW-129R-W-200624	Water	06/24/20 09:31	06/25/20 10:27	
410-5649-4	MW-139R-W-200624	Water	06/24/20 11:13	06/25/20 10:27	
410-5649-5	MW-143-W-200624	Water	06/24/20 11:22	06/25/20 10:27	
410-5649-6	MW-506-W-200624	Water	06/24/20 11:21	06/25/20 10:27	
410-5649-7	MW-507-W-200624	Water	06/24/20 12:51	06/25/20 10:27	
410-5649-8	MW-518-W-200624	Water	06/24/20 12:13	06/25/20 10:27	
410-5649-9	MW-519-W-200624	Water	06/24/20 09:52	06/25/20 10:27	
410-5649-10	MW-520-W-200624	Water	06/24/20 13:22	06/25/20 10:27	
410-5649-11	MW-531-W-200624	Water	06/24/20 09:02	06/25/20 10:27	
410-5649-12	MW-533-W-200624	Water	06/24/20 10:03	06/25/20 10:27	
410-5649-13	MW-534-W-200624	Water	06/24/20 09:13	06/25/20 10:27	
410-5649-14	DUP-3-WD-200624	Water	06/24/20 00:00	06/25/20 10:27	
410-5649-15	DUP-4-WD-200624	Water	06/24/20 00:00	06/25/20 10:27	
410-5649-16	QA-T-200624	Water	06/24/20 00:00	06/25/20 10:27	



Lancaster Laboratories

Acct. # _____



410-5649 Chain of Custody

Use only
circle #
with circled numbers.

2 of 2

1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks						
Facility # _____ WBS <u>RW</u> <u>Edmonds Terminal NWEALVPM00143070</u> Site Address <u>11720 Unoco Road, Edmonds, WA</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant <u>Arcadis</u> Consultant/Office <u>1100 Olive Way Suite 800, Seattle WA 98101</u> Consultant Project Mgr. <u>Samuel Miles</u> Consultant Phone # <u>206-325-5254</u> Sampler <u>Daniel Gilbert, Ryan Brauchla, Riku Kusakabe</u>				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Oil				Total Number of Containers _____ <input type="checkbox"/> BTEX+MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan Oxygenates _____ <input type="checkbox"/> NWTPH GX <input checked="" type="checkbox"/> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <u>CPAHS 8270 SIM</u> <u>Diss. Methane RSK 175</u> <u>Sulfate + Nitrate 300.0</u> <u>Diss. Manganese 200.8</u>										SCR #: _____ <input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits						
2 Sample Identification		3 Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX+MTBE 8021	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Lead Total	Diss. Method	WAVPH	WAEPH	CPAHS 8270 SIM	Diss. Methane RSK 175	Sulfate + Nitrate 300.0	Diss. Manganese 200.8	Remarks	
Date	Time	Date	Time																					
MW-101	6-24-20	1333		X			X		F	X			X	X						X	X	X	X	*Use standard 5GC *Dissolved Manganese field filtered *8260 - Benzene only
MW-126		1232																						
MW-129R		0931																						
MW-139R		1113																						
MW-143		1122																						
MW-506		1121																						
MW-507		1251																						
MW-518		1213																						
MW-519		0952																						
MW-520		1322																						
MW-531		0902																						
MW-533		1003																						
MW-534		0913																						
7 Turnaround Time Requested (TAT) (please circle) <input checked="" type="radio"/> Standard 5 day 4 day 72 hour 48 hour 24 hour				Relinquished by <u>Ryan Brauchla</u>		Date <u>6-24-2020</u>		Time <u>1530</u>		Received by <u>FedEx</u>		Date <u>6-24-2020</u>		Time <u>1530</u>										
				Relinquished by _____		Date _____		Time _____		Received by _____		Date <u>6/25/2020</u>		Time <u>1027</u>										
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)				Relinquished by Commercial Carrier _____		Date _____		Time _____		Received by _____		Date <u>6/25/2020</u>		Time <u>1027</u>										
				UPS _____ FedEx <input checked="" type="checkbox"/> Other _____		Temperature Upon Receipt <u>01-2.6 °C</u>		Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # _____ Group # _____ Sample # _____

For Lancaster Laboratories use only
Instructions on reverse side correspond with circled numbers

1 of 2

1 Client Information				4 Matrix			5 Analyses Requested										6 Remarks		
Facility #		WBS		<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air	<input type="checkbox"/> Total Number of Containers <input type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth	<input type="checkbox"/> BTEX+MTBE <input type="checkbox"/> 8260 full scan <input type="checkbox"/> Oxygenates <input type="checkbox"/> NWTPH GX <input checked="" type="checkbox"/> NWTPH DX <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAPPH <input type="checkbox"/> WAEPH	<input type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAPPH <input type="checkbox"/> WAEPH	<input type="checkbox"/> CRPHs <input type="checkbox"/> 8270 SIM <input type="checkbox"/> Diss. Methane <input type="checkbox"/> PSK 175 <input type="checkbox"/> Sulfate, Nitrate <input type="checkbox"/> 300.0 <input type="checkbox"/> Diss. Manganese <input type="checkbox"/> 200.0	SCR #: _____		<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits								
Edmonds Terminal Northwest ^{RLWS}		EDD143670																	
Site Address		11720 Unoco Road, Edmonds, WA																	
Chevron PM		Lead Consultant																	
Kim Jolitz		Arcadis																	
Consultant/Office		1100 Olive Way Suite 800, Seattle WA 98101																	
Consultant Project Mgr.		Samuel Miles																	
Consultant Phone #		206-325-5254																	
Sampler		Daniel Ailbert, Ryan Brauchla, Riku Kusakabe																	
2 Sample Identification			3		<input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil	<input type="checkbox"/> Grab <input type="checkbox"/> Composite	Total Number of Containers BTEX+MTBE 8021 8260 Naphth 8260 full scan Oxygenates NWTPH GX NWTPH DX Lead Total Diss. Method WAPPH WAEPH CRPHs 8270 SIM Diss. Methane PSK 175 Sulfate, Nitrate 300.0 Diss. Manganese 200.0										* Use standard SGC * Dissolved Manganese field filtered. * 8260 - Benzene only		
Collected		Date	Time	Grab															Composite
DUP-3	6-24-20	—	—	X															
DUP-4	↓	11	—	X															
Trip Blank	↓	11	—	X															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by		Date	Time	Received by		Date	Time	9							
Standard 5 day 4 day 72 hour 48 hour 24 hour				Ryan Brauchla		6-24-2020	1530	FedEx		6-24-2020	1530								
8 Data Package Options (please circle if required)				Relinquished by Commercial Carrier		Temperature Upon Receipt		Received by		Date	Time	Custody Seals Intact?							
Type I - Full Type VI (Raw Data)				UPS _____ FedEx <input checked="" type="checkbox"/> Other _____		0.7-2.6 °C		[Signature]		6/25/2020	1620	Yes <input checked="" type="checkbox"/> No _____							

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-5649-1

Login Number: 5649

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Reiff, Nicole L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-5798-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
8/20/2020 11:28:53 AM

Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

LINKS

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results through
TotalAccess

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www.eurofinsus.com/Env

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Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in black ink that reads "Amek Carter". The signature is written in a cursive style and is positioned above a horizontal blue line.

Amek Carter
Project Manager
8/20/2020 11:28:53 AM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Job ID: 410-5798-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-5798-1

Comments

No additional comments.

Receipt

The samples were received on 6/26/2020 10:24 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.7° C, 0.8° C and 2.5° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The COC lists 14 containers but 15 were received.

The following sample was listed on the Chain of Custody (COC); however, no sample was received: no trip blank containers were received by the laboratory. QA-T-200625 (410-5798-11).

Trip Blank vials were not for this sample group.

MW-503-W-200625 (410-5798-1), MW-504-W-200625 (410-5798-2), MW-504-W-200625DUP (410-5798-2[DU]), MW-504-W-200625MS (410-5798-2[MS]), MW-504-W-200625MSD (410-5798-2[MSD]), MW-505-W-200625 (410-5798-3), MW-509-W-200625 (410-5798-4), MW-512-W-200625 (410-5798-5), MW-513-W-200625 (410-5798-6), MW-514-W-200625 (410-5798-7), MW-516-W-200625 (410-5798-8), MW-517-W-200625 (410-5798-9), MW-521-W-200625 (410-5798-10) and QA-T-200625 (410-5798-11)

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270D SIM: Surrogate recovery for the following sample was outside control limits: MW-513-W-200625 (410-5798-6).

Re-extraction was performed and surrogate recovery was outside control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method 300.0: Sulfate was detected above the reporting limit (RL) in the method blank associated with analytical batch 410-17178 as well as in the following sample: MW-512-W-200625 (410-5798-5). The data have been reported as the sample is out of hold

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: C12-C24 and C24-C40 were detected above the reporting limit (RL) in the method blank associated with preparation batch 410-17456 and 410-18798 and analytical batch 410-18912 as well as in the following sample: MW-509-W-200625 (410-5798-4). All affected samples were re-extracted outside of holding time. The surrogate in the method blank in trial 2 is outside acceptance limits. Results are reported from the first trial.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Job ID: 410-5798-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-503-W-200625

Lab Sample ID: 410-5798-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	79		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	240		50	15	mg/L	50		300.0	Total/NA
Manganese	520		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-504-W-200625

Lab Sample ID: 410-5798-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	61	F1	5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	93	F1	20	6.0	mg/L	20		300.0	Total/NA
Manganese	1400		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-505-W-200625

Lab Sample ID: 410-5798-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	1500		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	180		50	15	mg/L	50		300.0	Total/NA
Manganese	2500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-509-W-200625

Lab Sample ID: 410-5798-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	140	B	100	47	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	1400		500	150	mg/L	500		300.0	Total/NA
Manganese	13		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-512-W-200625

Lab Sample ID: 410-5798-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	28	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	220		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	17	B	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-513-W-200625

Lab Sample ID: 410-5798-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	39	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	190		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	260		50	15	mg/L	50		300.0	Total/NA
Manganese	4000		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-514-W-200625

Lab Sample ID: 410-5798-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	37	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	270		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	78		20	6.0	mg/L	20		300.0	Total/NA
Manganese	2500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-516-W-200625

Lab Sample ID: 410-5798-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	38		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	73		20	6.0	mg/L	20		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-516-W-200625 (Continued)

Lab Sample ID: 410-5798-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-517-W-200625

Lab Sample ID: 410-5798-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	74		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	80		20	6.0	mg/L	20		300.0	Total/NA
Manganese	1100		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-521-W-200625

Lab Sample ID: 410-5798-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.20		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.15		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.18		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.15		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Chrysene	0.17		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	0.14		0.074	0.021	ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.16		0.053	0.011	ug/L	1		8270D SIM	Total/NA
Methane (1C)	26		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	61		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	260		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-503-W-200625

Lab Sample ID: 410-5798-1

Date Collected: 06/25/20 09:12

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 120					07/08/20 22:27	1
Dibromofluoromethane (Surr)	103		80 - 120					07/08/20 22:27	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/08/20 22:27	1
Toluene-d8 (Surr)	100		80 - 120					07/08/20 22:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Chrysene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/29/20 07:17	06/30/20 17:25	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:17	06/30/20 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	67		10 - 138				06/29/20 07:17	06/30/20 17:25	1
1-Methylnaphthalene-d10 (Surr)	72		15 - 121				06/29/20 07:17	06/30/20 17:25	1
Fluoranthene-d10 (Surr)	100		34 - 125				06/29/20 07:17	06/30/20 17:25	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 01:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	95		50 - 150					07/09/20 01:33	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	79		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	83		28 - 140				07/06/20 10:10	07/06/20 14:19	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/29/20 07:07	07/02/20 16:14	1
C24-C40	ND		260	100	ug/L		06/29/20 07:07	07/02/20 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.009						06/29/20 07:07	07/02/20 16:14	1
o-terphenyl (Surr)	69		50 - 150				06/29/20 07:07	07/02/20 16:14	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 05:34	5
Sulfate	240		50	15	mg/L			07/19/20 12:30	50

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-503-W-200625

Lab Sample ID: 410-5798-1

Date Collected: 06/25/20 09:12

Matrix: Water

Date Received: 06/26/20 10:24

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	520		2.1	0.65	ug/L		06/30/20 06:39	08/05/20 14:13	1

Client Sample ID: MW-504-W-200625

Lab Sample ID: 410-5798-2

Date Collected: 06/25/20 10:12

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 120		07/08/20 23:30	1
Dibromofluoromethane (Surr)	104		80 - 120		07/08/20 23:30	1
4-Bromofluorobenzene (Surr)	93		80 - 120		07/08/20 23:30	1
Toluene-d8 (Surr)	101		80 - 120		07/08/20 23:30	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1
Benzo[a]pyrene	ND	F1	0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1
Chrysene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1
Dibenz(a,h)anthracene	ND	F1	0.071	0.020	ug/L		06/29/20 07:18	06/30/20 14:35	1
Indeno[1,2,3-cd]pyrene	ND	F1	0.051	0.010	ug/L		06/29/20 07:18	06/30/20 14:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	10		10 - 138	06/29/20 07:18	06/30/20 14:35	1
1-Methylnaphthalene-d10 (Surr)	72		15 - 121	06/29/20 07:18	06/30/20 14:35	1
Fluoranthene-d10 (Surr)	96		34 - 125	06/29/20 07:18	06/30/20 14:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	101		50 - 150		07/09/20 00:10	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	61	F1	5.0	3.0	ug/L		07/06/20 10:10	07/06/20 12:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	47		28 - 140	07/06/20 10:10	07/06/20 12:04	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/29/20 07:07	07/02/20 16:37	1
C24-C40	ND		250	100	ug/L		06/29/20 07:07	07/02/20 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.01			06/29/20 07:07	07/02/20 16:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-504-W-200625

Lab Sample ID: 410-5798-2

Date Collected: 06/25/20 10:12

Matrix: Water

Date Received: 06/26/20 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -terphenyl (Surr)	66		50 - 150	06/29/20 07:07	07/02/20 16:37	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 03:22	5
Sulfate	93	F1	20	6.0	mg/L			07/19/20 11:39	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1400		2.1	0.65	ug/L		06/30/20 15:22	07/08/20 19:45	1

Client Sample ID: MW-505-W-200625

Lab Sample ID: 410-5798-3

Date Collected: 06/25/20 12:02

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane- <i>d</i> 4 (Surr)	106		80 - 120		07/08/20 22:48	1
<i>Dibromofluoromethane</i> (Surr)	103		80 - 120		07/08/20 22:48	1
<i>4</i> -Bromofluorobenzene (Surr)	93		80 - 120		07/08/20 22:48	1
<i>Toluene-d</i> 8 (Surr)	101		80 - 120		07/08/20 22:48	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1
Chrysene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		07/02/20 06:47	07/06/20 18:40	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		07/02/20 06:47	07/06/20 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d</i> 12 (Surr)	19		10 - 138	07/02/20 06:47	07/06/20 18:40	1
<i>1</i> -Methylnaphthalene- <i>d</i> 10 (Surr)	86		15 - 121	07/02/20 06:47	07/06/20 18:40	1
<i>Fluoranthene-d</i> 10 (Surr)	91		34 - 125	07/02/20 06:47	07/06/20 18:40	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 02:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	94		50 - 150		07/09/20 02:01	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1500		25	15	ug/L		07/07/20 13:23	07/07/20 21:19	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-505-W-200625

Lab Sample ID: 410-5798-3

Date Collected: 06/25/20 12:02

Matrix: Water

Date Received: 06/26/20 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	93		28 - 140	07/07/20 13:23	07/07/20 21:19	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/29/20 07:07	07/02/20 17:45	1
C24-C40	ND		260	110	ug/L		06/29/20 07:07	07/02/20 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.01			06/29/20 07:07	07/02/20 17:45	1
o-terphenyl (Surr)	69		50 - 150	06/29/20 07:07	07/02/20 17:45	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 07:07	5
Sulfate	180		50	15	mg/L			07/19/20 12:47	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2500		2.1	0.65	ug/L		06/30/20 06:39	08/05/20 14:19	1

Client Sample ID: MW-509-W-200625

Lab Sample ID: 410-5798-4

Date Collected: 06/25/20 12:52

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 02:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		07/09/20 02:05	1
Dibromofluoromethane (Surr)	101		80 - 120		07/09/20 02:05	1
4-Bromofluorobenzene (Surr)	94		80 - 120		07/09/20 02:05	1
Toluene-d8 (Surr)	101		80 - 120		07/09/20 02:05	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1
Chrysene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		06/29/20 07:18	06/30/20 18:21	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	62		10 - 138	06/29/20 07:18	06/30/20 18:21	1
1-Methylnaphthalene-d10 (Surr)	62		15 - 121	06/29/20 07:18	06/30/20 18:21	1
Fluoranthene-d10 (Surr)	96		34 - 125	06/29/20 07:18	06/30/20 18:21	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 02:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-509-W-200625

Lab Sample ID: 410-5798-4

Date Collected: 06/25/20 12:52

Matrix: Water

Date Received: 06/26/20 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	94		50 - 150		07/09/20 02:28	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	59		28 - 140	07/06/20 10:10	07/06/20 14:57	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	140	B	100	47	ug/L		06/29/20 07:07	07/02/20 18:08	1
C24-C40	ND		260	100	ug/L		06/29/20 07:07	07/02/20 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.05		0 - 1	06/29/20 07:07	07/02/20 18:08	1
<i>o-terphenyl (Surr)</i>	73		50 - 150	06/29/20 07:07	07/02/20 18:08	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 07:26	5
Sulfate	1400		500	150	mg/L			07/19/20 13:04	500

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	13		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 12:01	1

Client Sample ID: MW-512-W-200625

Lab Sample ID: 410-5798-5

Date Collected: 06/25/20 09:03

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	99		80 - 120		07/09/20 02:27	1
<i>Dibromofluoromethane (Surr)</i>	100		80 - 120		07/09/20 02:27	1
<i>4-Bromofluorobenzene (Surr)</i>	93		80 - 120		07/09/20 02:27	1
<i>Toluene-d8 (Surr)</i>	100		80 - 120		07/09/20 02:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1
Chrysene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/29/20 07:18	06/30/20 18:50	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:18	06/30/20 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	59		10 - 138	06/29/20 07:18	06/30/20 18:50	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-512-W-200625

Lab Sample ID: 410-5798-5

Date Collected: 06/25/20 09:03

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	77		15 - 121	06/29/20 07:18	06/30/20 18:50	1
Fluoranthene-d10 (Surr)	101		34 - 125	06/29/20 07:18	06/30/20 18:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	28	J	250	19	ug/L			07/09/20 03:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	94		50 - 150		07/09/20 03:24	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	220		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	59		28 - 140	07/06/20 10:10	07/06/20 15:15	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/29/20 07:07	07/02/20 18:30	1
C24-C40	ND		260	100	ug/L		06/29/20 07:07	07/02/20 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.03			06/29/20 07:07	07/02/20 18:30	1
o-terphenyl (Surr)	62		50 - 150	06/29/20 07:07	07/02/20 18:30	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 04:56	5
Sulfate	17	B	5.0	1.5	mg/L			06/27/20 04:56	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	500		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 12:06	1

Client Sample ID: MW-513-W-200625

Lab Sample ID: 410-5798-6

Date Collected: 06/25/20 10:13

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 02:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		07/09/20 02:49	1
Dibromofluoromethane (Surr)	100		80 - 120		07/09/20 02:49	1
4-Bromofluorobenzene (Surr)	94		80 - 120		07/09/20 02:49	1
Toluene-d8 (Surr)	100		80 - 120		07/09/20 02:49	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-513-W-200625

Lab Sample ID: 410-5798-6

Date Collected: 06/25/20 10:13

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1
Chrysene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		06/29/20 07:18	06/30/20 19:18	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		06/29/20 07:18	06/30/20 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	5	X	10 - 138	06/29/20 07:18	06/30/20 19:18	1
1-Methylnaphthalene-d10 (Surr)	74		15 - 121	06/29/20 07:18	06/30/20 19:18	1
Fluoranthene-d10 (Surr)	95		34 - 125	06/29/20 07:18	06/30/20 19:18	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	39	J	250	19	ug/L			07/09/20 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		07/09/20 03:51	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	190		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	82		28 - 140	07/06/20 10:10	07/06/20 15:34	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/29/20 07:07	07/02/20 18:53	1
C24-C40	ND		260	100	ug/L		06/29/20 07:07	07/02/20 18:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.0001			06/29/20 07:07	07/02/20 18:53	1
o-terphenyl (Surr)	65		50 - 150	06/29/20 07:07	07/02/20 18:53	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 05:52	5
Sulfate	260		50	15	mg/L			07/19/20 13:21	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4000		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 11:59	1

Client Sample ID: MW-514-W-200625

Lab Sample ID: 410-5798-7

Date Collected: 06/25/20 11:13

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 03:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-514-W-200625

Lab Sample ID: 410-5798-7

Date Collected: 06/25/20 11:13

Matrix: Water

Date Received: 06/26/20 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		07/09/20 03:11	1
Dibromofluoromethane (Surr)	99		80 - 120		07/09/20 03:11	1
4-Bromofluorobenzene (Surr)	94		80 - 120		07/09/20 03:11	1
Toluene-d8 (Surr)	100		80 - 120		07/09/20 03:11	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1
Chrysene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/29/20 07:18	06/30/20 19:46	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		06/29/20 07:18	06/30/20 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	14		10 - 138	06/29/20 07:18	06/30/20 19:46	1
1-Methylnaphthalene-d10 (Surr)	76		15 - 121	06/29/20 07:18	06/30/20 19:46	1
Fluoranthene-d10 (Surr)	100		34 - 125	06/29/20 07:18	06/30/20 19:46	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	37	J	250	19	ug/L			07/09/20 04:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	89		50 - 150		07/09/20 04:19	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	270		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	72		28 - 140	07/06/20 10:10	07/06/20 15:54	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		06/29/20 07:07	07/02/20 19:16	1
C24-C40	ND		260	110	ug/L		06/29/20 07:07	07/02/20 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.03			06/29/20 07:07	07/02/20 19:16	1
o-terphenyl (Surr)	84		50 - 150	06/29/20 07:07	07/02/20 19:16	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 06:30	5
Sulfate	78		20	6.0	mg/L			07/19/20 13:39	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2500		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 11:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-516-W-200625

Lab Sample ID: 410-5798-8

Date Collected: 06/25/20 11:53

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 03:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					07/09/20 03:33	1
Dibromofluoromethane (Surr)	100		80 - 120					07/09/20 03:33	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/09/20 03:33	1
Toluene-d8 (Surr)	100		80 - 120					07/09/20 03:33	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Benzo[a]pyrene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Benzo[b]fluoranthene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Benzo[k]fluoranthene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Chrysene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Dibenz(a,h)anthracene	ND		0.082	0.023	ug/L		06/29/20 07:13	06/30/20 03:16	1
Indeno[1,2,3-cd]pyrene	ND		0.058	0.012	ug/L		06/29/20 07:13	06/30/20 03:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	39		10 - 138				06/29/20 07:13	06/30/20 03:16	1
1-Methylnaphthalene-d10 (Surr)	73		15 - 121				06/29/20 07:13	06/30/20 03:16	1
Fluoranthene-d10 (Surr)	94		34 - 125				06/29/20 07:13	06/30/20 03:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 04:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150					07/09/20 04:46	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	38		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	65		28 - 140				07/06/20 10:10	07/06/20 16:12	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/29/20 18:15	07/02/20 13:36	1
C24-C40	ND		260	100	ug/L		06/29/20 18:15	07/02/20 13:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.01						06/29/20 18:15	07/02/20 13:36	1
o-terphenyl (Surr)	70		50 - 150				06/29/20 18:15	07/02/20 13:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 06:49	5
Sulfate	73		20	6.0	mg/L			07/19/20 13:56	20

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-516-W-200625

Lab Sample ID: 410-5798-8

Date Collected: 06/25/20 11:53

Matrix: Water

Date Received: 06/26/20 10:24

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	500		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 12:03	1

Client Sample ID: MW-517-W-200625

Lab Sample ID: 410-5798-9

Date Collected: 06/25/20 10:51

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		80 - 120		07/09/20 16:02	1
Dibromofluoromethane (Surr)	102		80 - 120		07/09/20 16:02	1
4-Bromofluorobenzene (Surr)	88		80 - 120		07/09/20 16:02	1
Toluene-d8 (Surr)	97		80 - 120		07/09/20 16:02	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1
Chrysene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		06/29/20 07:13	06/30/20 03:47	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		06/29/20 07:13	06/30/20 03:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	42		10 - 138	06/29/20 07:13	06/30/20 03:47	1
1-Methylnaphthalene-d10 (Surr)	73		15 - 121	06/29/20 07:13	06/30/20 03:47	1
Fluoranthene-d10 (Surr)	92		34 - 125	06/29/20 07:13	06/30/20 03:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 05:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		07/09/20 05:14	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	74		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	57		28 - 140	07/06/20 10:10	07/06/20 16:31	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/29/20 18:15	07/02/20 13:58	1
C24-C40	ND		250	100	ug/L		06/29/20 18:15	07/02/20 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.01			06/29/20 18:15	07/02/20 13:58	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-517-W-200625

Lab Sample ID: 410-5798-9

Date Collected: 06/25/20 10:51

Matrix: Water

Date Received: 06/26/20 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -terphenyl (Surr)	59		50 - 150	06/29/20 18:15	07/02/20 13:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 06:11	5
Sulfate	80		20	6.0	mg/L			07/19/20 14:13	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1100		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 11:41	1

Client Sample ID: MW-521-W-200625

Lab Sample ID: 410-5798-10

Date Collected: 06/25/20 09:11

Matrix: Water

Date Received: 06/26/20 10:24

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 16:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane- <i>d</i> 4 (Surr)	106		80 - 120		07/09/20 16:25	1
<i>Dibromofluoromethane</i> (Surr)	107		80 - 120		07/09/20 16:25	1
<i>4</i> -Bromofluorobenzene (Surr)	90		80 - 120		07/09/20 16:25	1
<i>Toluene-d</i> 8 (Surr)	98		80 - 120		07/09/20 16:25	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.20		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1
Benzo[a]pyrene	0.15		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1
Benzo[b]fluoranthene	0.18		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1
Benzo[k]fluoranthene	0.15		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1
Chrysene	0.17		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1
Dibenz(a,h)anthracene	0.14		0.074	0.021	ug/L		06/29/20 07:13	06/30/20 04:17	1
Indeno[1,2,3-cd]pyrene	0.16		0.053	0.011	ug/L		06/29/20 07:13	06/30/20 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d</i> 12 (Surr)	48		10 - 138	06/29/20 07:13	06/30/20 04:17	1
<i>1</i> -Methylnaphthalene- <i>d</i> 10 (Surr)	59		15 - 121	06/29/20 07:13	06/30/20 04:17	1
<i>Fluoranthene-d</i> 10 (Surr)	82		34 - 125	06/29/20 07:13	06/30/20 04:17	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 05:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	92		50 - 150		07/09/20 05:41	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	26		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 16:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-521-W-200625

Lab Sample ID: 410-5798-10

Date Collected: 06/25/20 09:11

Matrix: Water

Date Received: 06/26/20 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	85		28 - 140	07/06/20 10:10	07/06/20 16:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/29/20 18:15	07/02/20 14:21	1
C24-C40	ND		260	100	ug/L		06/29/20 18:15	07/02/20 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.009			06/29/20 18:15	07/02/20 14:21	1
o-terphenyl (Surr)	63		50 - 150	06/29/20 18:15	07/02/20 14:21	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			06/27/20 05:15	5
Sulfate	61		5.0	1.5	mg/L			07/19/20 15:04	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	260		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 11:57	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-5798-1	MW-503-W-200625	108	103	93	100
410-5798-2	MW-504-W-200625	108	104	93	101
410-5798-2 MS	MW-504-W-200625MS	105	102	102	105
410-5798-2 MSD	MW-504-W-200625MSD	105	100	102	104
410-5798-3	MW-505-W-200625	106	103	93	101
410-5798-4	MW-509-W-200625	100	101	94	101
410-5798-5	MW-512-W-200625	99	100	93	100
410-5798-6	MW-513-W-200625	99	100	94	100
410-5798-7	MW-514-W-200625	97	99	94	100
410-5798-8	MW-516-W-200625	100	100	93	100
410-5798-9	MW-517-W-200625	113	102	88	97
410-5798-10	MW-521-W-200625	106	107	90	98
LCS 410-20544/4	Lab Control Sample	98	96	98	103
LCS 410-20585/4	Lab Control Sample	103	99	101	104
LCS 410-20776/4	Lab Control Sample	107	103	97	99
LCS 410-20544/5	Lab Control Sample Dup	96	96	97	103
LCS 410-20585/5	Lab Control Sample Dup	103	99	100	104
LCS 410-20776/5	Lab Control Sample Dup	104	108	95	97
MB 410-20544/7	Method Blank	96	97	94	101
MB 410-20585/7	Method Blank	105	100	94	101
MB 410-20776/7	Method Blank	106	105	89	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-5798-1	MW-503-W-200625	67	72	100
410-5798-2	MW-504-W-200625	10	72	96
410-5798-2 MS	MW-504-W-200625MS	13	74	96
410-5798-2 MSD	MW-504-W-200625MSD	11	78	94
410-5798-3	MW-505-W-200625	19	86	91
410-5798-4	MW-509-W-200625	62	62	96
410-5798-5	MW-512-W-200625	59	77	101
410-5798-6	MW-513-W-200625	5 X	74	95
410-5798-7	MW-514-W-200625	14	76	100
410-5798-8	MW-516-W-200625	39	73	94
410-5798-9	MW-517-W-200625	42	73	92
410-5798-10	MW-521-W-200625	48	59	82
LCS 410-17461/2-A	Lab Control Sample	89	71	94
LCS 410-17462/2-A	Lab Control Sample	83	66	97
LCS 410-18834/2-A	Lab Control Sample	84	85	91
MB 410-17461/1-A	Method Blank	84	74	95

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
MB 410-17462/1-A	Method Blank	71	50	79
MB 410-18834/1-A	Method Blank	73	71	77

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
 MNPd10 = 1-Methylnaphthalene-d10 (Surr)
 FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1
		(50-150)
410-5798-1	MW-503-W-200625	95
410-5798-2	MW-504-W-200625	101
410-5798-2 MS	MW-504-W-200625	99
410-5798-2 MS	MW-504-W-200625MS	99
410-5798-2 MSD	MW-504-W-200625	97
410-5798-2 MSD	MW-504-W-200625MSD	97
410-5798-3	MW-505-W-200625	94
410-5798-4	MW-509-W-200625	94
410-5798-5	MW-512-W-200625	94
410-5798-6	MW-513-W-200625	92
410-5798-7	MW-514-W-200625	89
410-5798-8	MW-516-W-200625	92
410-5798-9	MW-517-W-200625	87
410-5798-10	MW-521-W-200625	92
LCS 410-20556/5	Lab Control Sample	92
LCS 410-20557/5	Lab Control Sample	92
MB 410-20556/4	Method Blank	90
MB 410-20557/4	Method Blank	90

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1
		(28-140)
410-5798-1	MW-503-W-200625	83
410-5798-2	MW-504-W-200625	47
410-5798-2 MS	MW-504-W-200625MS	58
410-5798-2 MSD	MW-504-W-200625MSD	40
410-5798-3	MW-505-W-200625	93
410-5798-4	MW-509-W-200625	59
410-5798-5	MW-512-W-200625	59
410-5798-6	MW-513-W-200625	82
410-5798-7	MW-514-W-200625	72
410-5798-8	MW-516-W-200625	65

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-5798-9	MW-517-W-200625	57
410-5798-10	MW-521-W-200625	85
LCS 410-19552/2-A	Lab Control Sample	99
LCS 410-20006/2-A	Lab Control Sample	110
LCSD 410-19552/3-A	Lab Control Sample Dup	109
MB 410-19552/1-A	Method Blank	86
MB 410-20006/1-A	Method Blank	109

Surrogate Legend

Propene = Propene

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		NDA	OTP (50-150)
410-5798-1	MW-503-W-200625	0.009	69
410-5798-1 DU	MW-503-W-200625	0.02	75
410-5798-2	MW-504-W-200625	0.01	66
410-5798-2 MS	MW-504-W-200625MS	0.2	57
410-5798-2 MSD	MW-504-W-200625MSD	0.2	65
410-5798-3	MW-505-W-200625	0.01	69
410-5798-5	MW-512-W-200625	0.03	62
410-5798-6	MW-513-W-200625	0.0001	65
410-5798-7	MW-514-W-200625	0.03	84
410-5798-8	MW-516-W-200625	0.01	70
410-5798-8 DU	MW-516-W-200625	0.007	59
410-5798-9	MW-517-W-200625	0.01	59
410-5798-10	MW-521-W-200625	0.009	63
LCS 410-17456/2-B	Lab Control Sample	0.2	81
LCS 410-17725/2-B	Lab Control Sample	0.2	64
LCSD 410-17725/3-B	Lab Control Sample Dup	0.2	70
MB 410-17456/1-B	Method Blank	0.1	65
MB 410-17725/1-B	Method Blank	0.03	52

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		NDA (0-1)	OTP (50-150)
410-5798-4	MW-509-W-200625	0.05	73

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-20544/7
Matrix: Water
Analysis Batch: 20544

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 19:31	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 120					07/08/20 19:31	1
Dibromofluoromethane (Surr)	97		80 - 120					07/08/20 19:31	1
4-Bromofluorobenzene (Surr)	94		80 - 120					07/08/20 19:31	1
Toluene-d8 (Surr)	101		80 - 120					07/08/20 19:31	1

Lab Sample ID: LCS 410-20544/4
Matrix: Water
Analysis Batch: 20544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	17.0		ug/L		85	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	98		80 - 120				
Dibromofluoromethane (Surr)	96		80 - 120				
4-Bromofluorobenzene (Surr)	98		80 - 120				
Toluene-d8 (Surr)	103		80 - 120				

Lab Sample ID: LCSD 410-20544/5
Matrix: Water
Analysis Batch: 20544

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	16.4		ug/L		82	80 - 120	4	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	96		80 - 120						
Dibromofluoromethane (Surr)	96		80 - 120						
4-Bromofluorobenzene (Surr)	97		80 - 120						
Toluene-d8 (Surr)	103		80 - 120						

Lab Sample ID: MB 410-20585/7
Matrix: Water
Analysis Batch: 20585

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/08/20 20:37	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					07/08/20 20:37	1
Dibromofluoromethane (Surr)	100		80 - 120					07/08/20 20:37	1
4-Bromofluorobenzene (Surr)	94		80 - 120					07/08/20 20:37	1
Toluene-d8 (Surr)	101		80 - 120					07/08/20 20:37	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-20585/4
Matrix: Water
Analysis Batch: 20585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.4		ug/L		97	80 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	103		80 - 120				
Dibromofluoromethane (Surr)	99		80 - 120				
4-Bromofluorobenzene (Surr)	101		80 - 120				
Toluene-d8 (Surr)	104		80 - 120				

Lab Sample ID: LCSD 410-20585/5
Matrix: Water
Analysis Batch: 20585

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	19.3		ug/L		97	80 - 120	1	30
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		80 - 120						
Dibromofluoromethane (Surr)	99		80 - 120						
4-Bromofluorobenzene (Surr)	100		80 - 120						
Toluene-d8 (Surr)	104		80 - 120						

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 20585

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	20.7		ug/L		103	80 - 120
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	105		80 - 120						
Dibromofluoromethane (Surr)	102		80 - 120						
4-Bromofluorobenzene (Surr)	102		80 - 120						
Toluene-d8 (Surr)	105		80 - 120						

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 20585

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	20.3		ug/L		102	80 - 120	2	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	105		80 - 120								
Dibromofluoromethane (Surr)	100		80 - 120								
4-Bromofluorobenzene (Surr)	102		80 - 120								
Toluene-d8 (Surr)	104		80 - 120								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-20776/7
Matrix: Water
Analysis Batch: 20776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/09/20 10:30	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					07/09/20 10:30	1
Dibromofluoromethane (Surr)	105		80 - 120					07/09/20 10:30	1
4-Bromofluorobenzene (Surr)	89		80 - 120					07/09/20 10:30	1
Toluene-d8 (Surr)	99		80 - 120					07/09/20 10:30	1

Lab Sample ID: LCS 410-20776/4
Matrix: Water
Analysis Batch: 20776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	21.8		ug/L		109	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	107		80 - 120				
Dibromofluoromethane (Surr)	103		80 - 120				
4-Bromofluorobenzene (Surr)	97		80 - 120				
Toluene-d8 (Surr)	99		80 - 120				

Lab Sample ID: LCSD 410-20776/5
Matrix: Water
Analysis Batch: 20776

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	22.7		ug/L		113	80 - 120	4	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	104		80 - 120						
Dibromofluoromethane (Surr)	108		80 - 120						
4-Bromofluorobenzene (Surr)	95		80 - 120						
Toluene-d8 (Surr)	97		80 - 120						

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-17461/1-A
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Chrysene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/29/20 07:13	06/29/20 23:43	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:13	06/29/20 23:43	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Benzo(a)pyrene-d12 (Surr)	84		10 - 138	06/29/20 07:13	06/29/20 23:43	1
1-Methylnaphthalene-d10 (Surr)	74		15 - 121	06/29/20 07:13	06/29/20 23:43	1
Fluoranthene-d10 (Surr)	95		34 - 125	06/29/20 07:13	06/29/20 23:43	1

Lab Sample ID: LCS 410-17461/2-A
Matrix: Water
Analysis Batch: 17764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	1.00	0.985		ug/L		98	63 - 135
Benzo[b]fluoranthene	1.00	1.07		ug/L		106	66 - 138
Benzo[k]fluoranthene	1.00	0.921		ug/L		92	58 - 142
Chrysene	1.00	0.847		ug/L		85	61 - 117
Dibenz(a,h)anthracene	1.00	0.994		ug/L		99	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	1.05		ug/L		105	56 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	89		10 - 138
1-Methylnaphthalene-d10 (Surr)	71		15 - 121
Fluoranthene-d10 (Surr)	94		34 - 125

Lab Sample ID: MB 410-17462/1-A
Matrix: Water
Analysis Batch: 17940

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17462

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzo[a]anthracene	ND		0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1
Benzo[b]fluoranthene	0.0122	J	0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1
Chrysene	ND		0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		06/29/20 07:17	06/30/20 10:26	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		06/29/20 07:17	06/30/20 10:26	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Benzo(a)pyrene-d12 (Surr)	71		10 - 138	06/29/20 07:17	06/30/20 10:26	1
1-Methylnaphthalene-d10 (Surr)	50		15 - 121	06/29/20 07:17	06/30/20 10:26	1
Fluoranthene-d10 (Surr)	79		34 - 125	06/29/20 07:17	06/30/20 10:26	1

Lab Sample ID: LCS 410-17462/2-A
Matrix: Water
Analysis Batch: 17940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	1.00	1.01		ug/L		101	63 - 135
Benzo[b]fluoranthene	1.00	1.11		ug/L		111	66 - 138
Benzo[k]fluoranthene	1.00	0.944		ug/L		94	58 - 142
Chrysene	1.00	0.909		ug/L		91	61 - 117
Dibenz(a,h)anthracene	1.00	0.859		ug/L		86	51 - 139

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-17462/2-A
Matrix: Water
Analysis Batch: 17940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	1.00	0.915		ug/L		91	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	83		10 - 138
1-Methylnaphthalene-d10 (Surr)	66		15 - 121
Fluoranthene-d10 (Surr)	97		34 - 125

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 17940

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA
Prep Batch: 17462

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	ND		1.05	0.971		ug/L		92	61 - 117
Benzo[a]pyrene	ND	F1	1.05	0.270	F1	ug/L		26	63 - 135
Benzo[b]fluoranthene	ND		1.05	1.21		ug/L		115	66 - 138
Benzo[k]fluoranthene	ND		1.05	1.07		ug/L		102	58 - 142
Chrysene	ND		1.05	0.923		ug/L		88	61 - 117
Dibenz(a,h)anthracene	ND	F1	1.05	0.495	F1	ug/L		47	51 - 139
Indeno[1,2,3-cd]pyrene	ND	F1	1.05	0.465	F1	ug/L		44	56 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	13		10 - 138
1-Methylnaphthalene-d10 (Surr)	74		15 - 121
Fluoranthene-d10 (Surr)	96		34 - 125

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 17940

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA
Prep Batch: 17462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	ND		1.02	0.909		ug/L		89	61 - 117	7	30
Benzo[a]pyrene	ND	F1	1.02	0.242	F1	ug/L		24	63 - 135	11	30
Benzo[b]fluoranthene	ND		1.02	1.13		ug/L		111	66 - 138	7	30
Benzo[k]fluoranthene	ND		1.02	0.934		ug/L		92	58 - 142	14	30
Chrysene	ND		1.02	0.886		ug/L		87	61 - 117	4	30
Dibenz(a,h)anthracene	ND	F1	1.02	0.431	F1	ug/L		42	51 - 139	14	30
Indeno[1,2,3-cd]pyrene	ND	F1	1.02	0.372	F1	ug/L		36	56 - 147	22	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	11		10 - 138
1-Methylnaphthalene-d10 (Surr)	78		15 - 121
Fluoranthene-d10 (Surr)	94		34 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 410-18834/1-A
Matrix: Water
Analysis Batch: 19442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1
Chrysene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		07/02/20 06:47	07/06/20 09:11	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		07/02/20 06:47	07/06/20 09:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	73		10 - 138	07/02/20 06:47	07/06/20 09:11	1
1-Methylnaphthalene-d10 (Surr)	71		15 - 121	07/02/20 06:47	07/06/20 09:11	1
Fluoranthene-d10 (Surr)	77		34 - 125	07/02/20 06:47	07/06/20 09:11	1

Lab Sample ID: LCS 410-18834/2-A
Matrix: Water
Analysis Batch: 19442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	1.08		ug/L		108	61 - 117
Benzo[a]pyrene	1.00	1.06		ug/L		106	63 - 135
Benzo[b]fluoranthene	1.00	1.15		ug/L		115	66 - 138
Benzo[k]fluoranthene	1.00	0.995		ug/L		99	58 - 142
Chrysene	1.00	0.960		ug/L		96	61 - 117
Dibenz(a,h)anthracene	1.00	1.03		ug/L		102	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	1.08		ug/L		107	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	84		10 - 138
1-Methylnaphthalene-d10 (Surr)	85		15 - 121
Fluoranthene-d10 (Surr)	91		34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-20556/4
Matrix: Water
Analysis Batch: 20556

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150		07/08/20 21:21	1

Lab Sample ID: LCS 410-20556/5
Matrix: Water
Analysis Batch: 20556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 20556

Client Sample ID: MW-504-W-200625
Prep Type: Total/NA

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	99		50 - 150

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 20556

Client Sample ID: MW-504-W-200625
Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	97		50 - 150

Lab Sample ID: MB 410-20557/4
Matrix: Water
Analysis Batch: 20557

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/08/20 21:21	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150		07/08/20 21:21	1

Lab Sample ID: LCS 410-20557/5
Matrix: Water
Analysis Batch: 20557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1120		ug/L		102	64 - 131

Surrogate	%Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 20557

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	ND		1120	1240		ug/L		111	80 - 120

Surrogate	%Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	99		50 - 150

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 20557

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1290		ug/L		116	80 - 120	4	30

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 20557

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	97		50 - 150

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-19552/1-A
Matrix: Water
Analysis Batch: 19572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/06/20 10:10	07/06/20 10:12	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	86		28 - 140	07/06/20 10:10	07/06/20 10:12	1			

Lab Sample ID: LCS 410-19552/2-A
Matrix: Water
Analysis Batch: 19572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	62.3		ug/L		105	85 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Propene (1C)	99		28 - 140				

Lab Sample ID: LCSD 410-19552/3-A
Matrix: Water
Analysis Batch: 19572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Methane (1C)	59.4	65.3		ug/L		110	85 - 115	5	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Propene (1C)	109		28 - 140						

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 19572

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA
Prep Batch: 19552

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	61	F1	59.4	178	F1	ug/L		197	73 - 125
Surrogate	MS %Recovery	MS Qualifier	Limits						
Propene (1C)	58		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 19572

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA
Prep Batch: 19552

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	61	F1	59.4	139	F1	ug/L		131	73 - 125	25	30
Surrogate	%Recovery	Qualifier	Limits								
Propene (1C)	40		28 - 140								

Lab Sample ID: MB 410-20006/1-A
Matrix: Water
Analysis Batch: 19942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/07/20 13:23	07/07/20 16:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	109		28 - 140				07/07/20 13:23	07/07/20 16:39	1

Lab Sample ID: LCS 410-20006/2-A
Matrix: Water
Analysis Batch: 19942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	66.6		ug/L		112	85 - 115
Surrogate	%Recovery	Qualifier	Limits				
Propene (1C)	110		28 - 140				

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-17456/1-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17456

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	262		100	45	ug/L		06/29/20 07:07	07/02/20 15:06	1
C24-C40	3060		250	100	ug/L		06/29/20 07:07	07/02/20 15:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.1						06/29/20 07:07	07/02/20 15:06	1
o-terphenyl (Surr)	65		50 - 150				06/29/20 07:07	07/02/20 15:06	1

Lab Sample ID: LCS 410-17456/2-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	296		ug/L		49	10 - 115

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-17456/2-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17456

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.2		
<i>o-terphenyl (Surr)</i>	81		50 - 150

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 18912

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA
Prep Batch: 17456

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	ND		617	241		ug/L		39	30 - 115
Surrogate	MS %Recovery	MS Qualifier	Limits						
<i>n-Decanoic Acid (Surr)</i>	0.2								
<i>o-terphenyl (Surr)</i>	57		50 - 150						

Lab Sample ID: 410-5798-2 MSD
Matrix: Water
Analysis Batch: 18912

Client Sample ID: MW-504-W-200625MSD
Prep Type: Total/NA
Prep Batch: 17456

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C12-C24	ND		610	265		ug/L		44	30 - 115	10	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
<i>n-Decanoic Acid (Surr)</i>	0.2										
<i>o-terphenyl (Surr)</i>	65		50 - 150								

Lab Sample ID: 410-5798-1 DU
Matrix: Water
Analysis Batch: 18912

Client Sample ID: MW-503-W-200625
Prep Type: Total/NA
Prep Batch: 17456

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20
Surrogate	DU %Recovery	DU Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.02							
<i>o-terphenyl (Surr)</i>	75		50 - 150					

Lab Sample ID: MB 410-17725/1-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/29/20 18:15	07/02/20 10:57	1
C24-C40	ND		250	100	ug/L		06/29/20 18:15	07/02/20 10:57	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n-Decanoic Acid (Surr)</i>	0.03			06/29/20 18:15	07/02/20 10:57	1			

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-17725/1-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17725

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr)</i>	52		50 - 150	06/29/20 18:15	07/02/20 10:57	1

Lab Sample ID: LCS 410-17725/2-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	247		ug/L		41	10 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.2		
<i>o-terphenyl (Surr)</i>	64		50 - 150

Lab Sample ID: LCSD 410-17725/3-B
Matrix: Water
Analysis Batch: 18912

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17725

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	600	294		ug/L		49	10 - 115	17	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.2		
<i>o-terphenyl (Surr)</i>	70		50 - 150

Lab Sample ID: 410-5798-8 DU
Matrix: Water
Analysis Batch: 18912

Client Sample ID: MW-516-W-200625
Prep Type: Total/NA
Prep Batch: 17725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>n-Decanoic Acid (Surr)</i>	0.007		
<i>o-terphenyl (Surr)</i>	59		50 - 150

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 410-17177/4
Matrix: Water
Analysis Batch: 17177

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			06/26/20 11:26	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 410-17177/3
Matrix: Water
Analysis Batch: 17177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.721		mg/L		96	90 - 110

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 17177

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND		2.50	2.38		mg/L		95	90 - 110

Lab Sample ID: 410-5798-2 DU
Matrix: Water
Analysis Batch: 17177

Client Sample ID: MW-504-W-200625DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND		ND		mg/L		NC	15

Lab Sample ID: MB 410-17178/38
Matrix: Water
Analysis Batch: 17178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.07		1.0	0.30	mg/L			06/27/20 01:49	1

Lab Sample ID: MB 410-17178/4
Matrix: Water
Analysis Batch: 17178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			06/26/20 11:26	1

Lab Sample ID: LCS 410-17178/3
Matrix: Water
Analysis Batch: 17178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	8.25		mg/L		110	90 - 110

Lab Sample ID: MB 410-24009/4
Matrix: Water
Analysis Batch: 24009

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			07/19/20 06:31	1

Lab Sample ID: LCS 410-24009/3
Matrix: Water
Analysis Batch: 24009

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.75		mg/L		103	90 - 110

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 24009

Client Sample ID: MW-504-W-200625MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	93	F1	100	353	E F1	mg/L		260	90 - 110

Lab Sample ID: 410-5798-2 DU
Matrix: Water
Analysis Batch: 24009

Client Sample ID: MW-504-W-200625DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	93	F1	269	F3	mg/L		97	15

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-17897/1-A
Matrix: Water
Analysis Batch: 30251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17897

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/30/20 06:39	08/05/20 14:08	1

Lab Sample ID: LCS 410-17897/2-A
Matrix: Water
Analysis Batch: 30251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17897

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	22.5		ug/L		113	85 - 115

Lab Sample ID: MB 410-18105/1-A
Matrix: Water
Analysis Batch: 22345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18105

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/30/20 10:52	07/14/20 11:23	1

Lab Sample ID: LCS 410-18105/2-A
Matrix: Water
Analysis Batch: 22345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18105

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	49.5		ug/L		99	85 - 115

Lab Sample ID: MB 410-18186/1-A
Matrix: Water
Analysis Batch: 20765

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		06/30/20 15:22	07/08/20 19:40	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-18186/2-A
Matrix: Water
Analysis Batch: 20765

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	47.4		ug/L		94	85 - 115

Lab Sample ID: 410-5798-2 MS
Matrix: Water
Analysis Batch: 20765

Client Sample ID: MW-504-W-200625MS
Prep Type: Dissolved
Prep Batch: 18186

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1400		50.2	1380	4	ug/L		-6	70 - 130

Lab Sample ID: 410-5798-2 DU
Matrix: Water
Analysis Batch: 20765

Client Sample ID: MW-504-W-200625DUP
Prep Type: Dissolved
Prep Batch: 18186

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	1400		1630		ug/L		17	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

GC/MS VOA

Analysis Batch: 20544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-4	MW-509-W-200625	Total/NA	Water	8260D	
410-5798-5	MW-512-W-200625	Total/NA	Water	8260D	
410-5798-6	MW-513-W-200625	Total/NA	Water	8260D	
410-5798-7	MW-514-W-200625	Total/NA	Water	8260D	
410-5798-8	MW-516-W-200625	Total/NA	Water	8260D	
MB 410-20544/7	Method Blank	Total/NA	Water	8260D	
LCS 410-20544/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-20544/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 20585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	8260D	
410-5798-2	MW-504-W-200625	Total/NA	Water	8260D	
410-5798-3	MW-505-W-200625	Total/NA	Water	8260D	
MB 410-20585/7	Method Blank	Total/NA	Water	8260D	
LCS 410-20585/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-20585/5	Lab Control Sample Dup	Total/NA	Water	8260D	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	8260D	
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	8260D	

Analysis Batch: 20776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-9	MW-517-W-200625	Total/NA	Water	8260D	
410-5798-10	MW-521-W-200625	Total/NA	Water	8260D	
MB 410-20776/7	Method Blank	Total/NA	Water	8260D	
LCS 410-20776/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-20776/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 17461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-8	MW-516-W-200625	Total/NA	Water	3510C	
410-5798-9	MW-517-W-200625	Total/NA	Water	3510C	
410-5798-10	MW-521-W-200625	Total/NA	Water	3510C	
MB 410-17461/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-17461/2-A	Lab Control Sample	Total/NA	Water	3510C	

Prep Batch: 17462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	3510C	
410-5798-2	MW-504-W-200625	Total/NA	Water	3510C	
410-5798-4	MW-509-W-200625	Total/NA	Water	3510C	
410-5798-5	MW-512-W-200625	Total/NA	Water	3510C	
410-5798-6	MW-513-W-200625	Total/NA	Water	3510C	
410-5798-7	MW-514-W-200625	Total/NA	Water	3510C	
MB 410-17462/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-17462/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	3510C	
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	3510C	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

GC/MS Semi VOA

Analysis Batch: 17764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-8	MW-516-W-200625	Total/NA	Water	8270D SIM	17461
410-5798-9	MW-517-W-200625	Total/NA	Water	8270D SIM	17461
410-5798-10	MW-521-W-200625	Total/NA	Water	8270D SIM	17461
MB 410-17461/1-A	Method Blank	Total/NA	Water	8270D SIM	17461
LCS 410-17461/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	17461

Analysis Batch: 17940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	8270D SIM	17462
410-5798-2	MW-504-W-200625	Total/NA	Water	8270D SIM	17462
410-5798-4	MW-509-W-200625	Total/NA	Water	8270D SIM	17462
410-5798-5	MW-512-W-200625	Total/NA	Water	8270D SIM	17462
410-5798-6	MW-513-W-200625	Total/NA	Water	8270D SIM	17462
410-5798-7	MW-514-W-200625	Total/NA	Water	8270D SIM	17462
MB 410-17462/1-A	Method Blank	Total/NA	Water	8270D SIM	17462
LCS 410-17462/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	17462
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	8270D SIM	17462
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	8270D SIM	17462

Prep Batch: 18834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-3	MW-505-W-200625	Total/NA	Water	3510C	
MB 410-18834/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-18834/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 19442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-3	MW-505-W-200625	Total/NA	Water	8270D SIM	18834
MB 410-18834/1-A	Method Blank	Total/NA	Water	8270D SIM	18834
LCS 410-18834/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	18834

GC VOA

Prep Batch: 19552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	RSK-175	
410-5798-2	MW-504-W-200625	Total/NA	Water	RSK-175	
410-5798-4	MW-509-W-200625	Total/NA	Water	RSK-175	
410-5798-5	MW-512-W-200625	Total/NA	Water	RSK-175	
410-5798-6	MW-513-W-200625	Total/NA	Water	RSK-175	
410-5798-7	MW-514-W-200625	Total/NA	Water	RSK-175	
410-5798-8	MW-516-W-200625	Total/NA	Water	RSK-175	
410-5798-9	MW-517-W-200625	Total/NA	Water	RSK-175	
410-5798-10	MW-521-W-200625	Total/NA	Water	RSK-175	
MB 410-19552/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-19552/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-19552/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	RSK-175	
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	RSK-175	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

GC VOA

Analysis Batch: 19572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	RSK-175	19552
410-5798-2	MW-504-W-200625	Total/NA	Water	RSK-175	19552
410-5798-4	MW-509-W-200625	Total/NA	Water	RSK-175	19552
410-5798-5	MW-512-W-200625	Total/NA	Water	RSK-175	19552
410-5798-6	MW-513-W-200625	Total/NA	Water	RSK-175	19552
410-5798-7	MW-514-W-200625	Total/NA	Water	RSK-175	19552
410-5798-8	MW-516-W-200625	Total/NA	Water	RSK-175	19552
410-5798-9	MW-517-W-200625	Total/NA	Water	RSK-175	19552
410-5798-10	MW-521-W-200625	Total/NA	Water	RSK-175	19552
MB 410-19552/1-A	Method Blank	Total/NA	Water	RSK-175	19552
LCS 410-19552/2-A	Lab Control Sample	Total/NA	Water	RSK-175	19552
LCS 410-19552/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	19552
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	RSK-175	19552
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	RSK-175	19552

Analysis Batch: 19942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-3	MW-505-W-200625	Total/NA	Water	RSK-175	20006
MB 410-20006/1-A	Method Blank	Total/NA	Water	RSK-175	20006
LCS 410-20006/2-A	Lab Control Sample	Total/NA	Water	RSK-175	20006

Prep Batch: 20006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-3	MW-505-W-200625	Total/NA	Water	RSK-175	
MB 410-20006/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-20006/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 20556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-20556/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-20556/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
410-5798-2 MS	MW-504-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-2 MSD	MW-504-W-200625	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 20557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-2	MW-504-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-3	MW-505-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-4	MW-509-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-5	MW-512-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-6	MW-513-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-7	MW-514-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-8	MW-516-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-9	MW-517-W-200625	Total/NA	Water	NWTPH-Gx	
410-5798-10	MW-521-W-200625	Total/NA	Water	NWTPH-Gx	
MB 410-20557/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-20557/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	NWTPH-Gx	
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	NWTPH-Gx	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

GC Semi VOA

Prep Batch: 17456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	3510C	
410-5798-2	MW-504-W-200625	Total/NA	Water	3510C	
410-5798-3	MW-505-W-200625	Total/NA	Water	3510C	
410-5798-4	MW-509-W-200625	Total/NA	Water	3510C	
410-5798-5	MW-512-W-200625	Total/NA	Water	3510C	
410-5798-6	MW-513-W-200625	Total/NA	Water	3510C	
410-5798-7	MW-514-W-200625	Total/NA	Water	3510C	
MB 410-17456/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-17456/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	3510C	
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	3510C	
410-5798-1 DU	MW-503-W-200625	Total/NA	Water	3510C	

Prep Batch: 17725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-8	MW-516-W-200625	Total/NA	Water	3510C	
410-5798-9	MW-517-W-200625	Total/NA	Water	3510C	
410-5798-10	MW-521-W-200625	Total/NA	Water	3510C	
MB 410-17725/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-17725/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-17725/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-5798-8 DU	MW-516-W-200625	Total/NA	Water	3510C	

Cleanup Batch: 18797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-8	MW-516-W-200625	Total/NA	Water	3630C	17725
410-5798-9	MW-517-W-200625	Total/NA	Water	3630C	17725
410-5798-10	MW-521-W-200625	Total/NA	Water	3630C	17725
MB 410-17725/1-B	Method Blank	Total/NA	Water	3630C	17725
LCS 410-17725/2-B	Lab Control Sample	Total/NA	Water	3630C	17725
LCSD 410-17725/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	17725
410-5798-8 DU	MW-516-W-200625	Total/NA	Water	3630C	17725

Cleanup Batch: 18798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	3630C	17456
410-5798-2	MW-504-W-200625	Total/NA	Water	3630C	17456
410-5798-3	MW-505-W-200625	Total/NA	Water	3630C	17456
410-5798-4	MW-509-W-200625	Total/NA	Water	3630C	17456
410-5798-5	MW-512-W-200625	Total/NA	Water	3630C	17456
410-5798-6	MW-513-W-200625	Total/NA	Water	3630C	17456
410-5798-7	MW-514-W-200625	Total/NA	Water	3630C	17456
MB 410-17456/1-B	Method Blank	Total/NA	Water	3630C	17456
LCS 410-17456/2-B	Lab Control Sample	Total/NA	Water	3630C	17456
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	3630C	17456
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	3630C	17456
410-5798-1 DU	MW-503-W-200625	Total/NA	Water	3630C	17456

Analysis Batch: 18912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	NWTPH-Dx	18798

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

GC Semi VOA (Continued)

Analysis Batch: 18912 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-2	MW-504-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-3	MW-505-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-4	MW-509-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-5	MW-512-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-6	MW-513-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-7	MW-514-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-8	MW-516-W-200625	Total/NA	Water	NWTPH-Dx	18797
410-5798-9	MW-517-W-200625	Total/NA	Water	NWTPH-Dx	18797
410-5798-10	MW-521-W-200625	Total/NA	Water	NWTPH-Dx	18797
MB 410-17456/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	18798
MB 410-17725/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	18797
LCS 410-17456/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	18798
LCS 410-17725/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	18797
LCSD 410-17725/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	18797
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	NWTPH-Dx	18798
410-5798-2 MSD	MW-504-W-200625MSD	Total/NA	Water	NWTPH-Dx	18798
410-5798-1 DU	MW-503-W-200625	Total/NA	Water	NWTPH-Dx	18798
410-5798-8 DU	MW-516-W-200625	Total/NA	Water	NWTPH-Dx	18797

HPLC/IC

Analysis Batch: 17177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	300.0	
410-5798-2	MW-504-W-200625	Total/NA	Water	300.0	
410-5798-3	MW-505-W-200625	Total/NA	Water	300.0	
410-5798-4	MW-509-W-200625	Total/NA	Water	300.0	
410-5798-5	MW-512-W-200625	Total/NA	Water	300.0	
410-5798-6	MW-513-W-200625	Total/NA	Water	300.0	
410-5798-7	MW-514-W-200625	Total/NA	Water	300.0	
410-5798-8	MW-516-W-200625	Total/NA	Water	300.0	
410-5798-9	MW-517-W-200625	Total/NA	Water	300.0	
410-5798-10	MW-521-W-200625	Total/NA	Water	300.0	
MB 410-17177/4	Method Blank	Total/NA	Water	300.0	
LCS 410-17177/3	Lab Control Sample	Total/NA	Water	300.0	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	300.0	
410-5798-2 DU	MW-504-W-200625DUP	Total/NA	Water	300.0	

Analysis Batch: 17178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-5	MW-512-W-200625	Total/NA	Water	300.0	
MB 410-17178/38	Method Blank	Total/NA	Water	300.0	
MB 410-17178/4	Method Blank	Total/NA	Water	300.0	
LCS 410-17178/3	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 24009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Total/NA	Water	300.0	
410-5798-2	MW-504-W-200625	Total/NA	Water	300.0	
410-5798-3	MW-505-W-200625	Total/NA	Water	300.0	
410-5798-4	MW-509-W-200625	Total/NA	Water	300.0	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

HPLC/IC (Continued)

Analysis Batch: 24009 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-6	MW-513-W-200625	Total/NA	Water	300.0	
410-5798-7	MW-514-W-200625	Total/NA	Water	300.0	
410-5798-8	MW-516-W-200625	Total/NA	Water	300.0	
410-5798-9	MW-517-W-200625	Total/NA	Water	300.0	
410-5798-10	MW-521-W-200625	Total/NA	Water	300.0	
MB 410-24009/4	Method Blank	Total/NA	Water	300.0	
LCS 410-24009/3	Lab Control Sample	Total/NA	Water	300.0	
410-5798-2 MS	MW-504-W-200625MS	Total/NA	Water	300.0	
410-5798-2 DU	MW-504-W-200625DUP	Total/NA	Water	300.0	

Metals

Prep Batch: 17897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-3	MW-505-W-200625	Dissolved	Water	Non-Digest Prep	
MB 410-17897/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-17897/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Prep Batch: 18105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-4	MW-509-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-5	MW-512-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-6	MW-513-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-7	MW-514-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-8	MW-516-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-9	MW-517-W-200625	Dissolved	Water	Non-Digest Prep	
410-5798-10	MW-521-W-200625	Dissolved	Water	Non-Digest Prep	
MB 410-18105/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-18105/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Prep Batch: 18186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-2	MW-504-W-200625	Dissolved	Water	Non-Digest Prep	
MB 410-18186/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-18186/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-5798-2 MS	MW-504-W-200625MS	Dissolved	Water	Non-Digest Prep	
410-5798-2 DU	MW-504-W-200625DUP	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 20765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-2	MW-504-W-200625	Dissolved	Water	200.8 Rev 5.4	18186
MB 410-18186/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	18186
LCS 410-18186/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	18186
410-5798-2 MS	MW-504-W-200625MS	Dissolved	Water	200.8 Rev 5.4	18186
410-5798-2 DU	MW-504-W-200625DUP	Dissolved	Water	200.8 Rev 5.4	18186

Analysis Batch: 22345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-4	MW-509-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
410-5798-5	MW-512-W-200625	Dissolved	Water	200.8 Rev 5.4	18105

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Metals (Continued)

Analysis Batch: 22345 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-6	MW-513-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
410-5798-7	MW-514-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
410-5798-8	MW-516-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
410-5798-9	MW-517-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
410-5798-10	MW-521-W-200625	Dissolved	Water	200.8 Rev 5.4	18105
MB 410-18105/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	18105
LCS 410-18105/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	18105

Analysis Batch: 30251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5798-1	MW-503-W-200625	Dissolved	Water	200.8 Rev 5.4	17897
410-5798-3	MW-505-W-200625	Dissolved	Water	200.8 Rev 5.4	17897
MB 410-17897/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	17897
LCS 410-17897/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	17897

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-503-W-200625

Lab Sample ID: 410-5798-1

Date Collected: 06/25/20 09:12

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20585	07/08/20 22:27	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:17	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 17:25	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 01:33	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 14:19	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 16:14	IUSB	ELLE
Total/NA	Analysis	300.0		50	24009	07/19/20 12:30	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 05:34	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			17897	06/30/20 06:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	30251	08/05/20 14:13	S2GN	ELLE

Client Sample ID: MW-504-W-200625

Lab Sample ID: 410-5798-2

Date Collected: 06/25/20 10:12

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20585	07/08/20 23:30	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:18	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 14:35	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 00:10	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 12:04	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 16:37	IUSB	ELLE
Total/NA	Analysis	300.0		20	24009	07/19/20 11:39	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 03:22	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18186	06/30/20 15:22	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	20765	07/08/20 19:45	S2GN	ELLE

Client Sample ID: MW-505-W-200625

Lab Sample ID: 410-5798-3

Date Collected: 06/25/20 12:02

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20585	07/08/20 22:48	TQ4J	ELLE
Total/NA	Prep	3510C			18834	07/02/20 06:47	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	19442	07/06/20 18:40	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 02:01	UMDJ	ELLE
Total/NA	Prep	RSK-175			20006	07/07/20 13:23	IYN5	ELLE
Total/NA	Analysis	RSK-175		5	19942	07/07/20 21:19	IYN5	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-505-W-200625

Lab Sample ID: 410-5798-3

Date Collected: 06/25/20 12:02

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 17:45	IUSB	ELLE
Total/NA	Analysis	300.0		50	24009	07/19/20 12:47	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 07:07	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			17897	06/30/20 06:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	30251	08/05/20 14:19	S2GN	ELLE

Client Sample ID: MW-509-W-200625

Lab Sample ID: 410-5798-4

Date Collected: 06/25/20 12:52

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20544	07/09/20 02:05	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:18	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 18:21	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 02:28	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 14:57	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 18:08	IUSB	ELLE
Total/NA	Analysis	300.0		500	24009	07/19/20 13:04	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 07:26	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 12:01	S2GN	ELLE

Client Sample ID: MW-512-W-200625

Lab Sample ID: 410-5798-5

Date Collected: 06/25/20 09:03

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20544	07/09/20 02:27	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:18	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 18:50	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 03:24	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 15:15	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 18:30	IUSB	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 04:56	IGI3	ELLE
Total/NA	Analysis	300.0		5	17178	06/27/20 04:56	IGI3	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-512-W-200625

Lab Sample ID: 410-5798-5

Date Collected: 06/25/20 09:03

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 12:06	S2GN	ELLE

Client Sample ID: MW-513-W-200625

Lab Sample ID: 410-5798-6

Date Collected: 06/25/20 10:13

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20544	07/09/20 02:49	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:18	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 19:18	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 03:51	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 15:34	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 18:53	IUSB	ELLE
Total/NA	Analysis	300.0		50	24009	07/19/20 13:21	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 05:52	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 11:59	S2GN	ELLE

Client Sample ID: MW-514-W-200625

Lab Sample ID: 410-5798-7

Date Collected: 06/25/20 11:13

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20544	07/09/20 03:11	TQ4J	ELLE
Total/NA	Prep	3510C			17462	06/29/20 07:18	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17940	06/30/20 19:46	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 04:19	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 15:54	LXF2	ELLE
Total/NA	Prep	3510C			17456	06/29/20 07:07	C4EI	ELLE
Total/NA	Cleanup	3630C			18798	07/02/20 01:52	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 19:16	IUSB	ELLE
Total/NA	Analysis	300.0		20	24009	07/19/20 13:39	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 06:30	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 11:54	S2GN	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-516-W-200625

Lab Sample ID: 410-5798-8

Date Collected: 06/25/20 11:53

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20544	07/09/20 03:33	TQ4J	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 03:16	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 04:46	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 16:12	LXF2	ELLE
Total/NA	Prep	3510C			17725	06/29/20 18:15	DFX4	ELLE
Total/NA	Cleanup	3630C			18797	07/02/20 01:34	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 13:36	IUSB	ELLE
Total/NA	Analysis	300.0		20	24009	07/19/20 13:56	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 06:49	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 12:03	S2GN	ELLE

Client Sample ID: MW-517-W-200625

Lab Sample ID: 410-5798-9

Date Collected: 06/25/20 10:51

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20776	07/09/20 16:02	LCW8	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 03:47	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 05:14	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 16:31	LXF2	ELLE
Total/NA	Prep	3510C			17725	06/29/20 18:15	DFX4	ELLE
Total/NA	Cleanup	3630C			18797	07/02/20 01:34	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 13:58	IUSB	ELLE
Total/NA	Analysis	300.0		20	24009	07/19/20 14:13	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 06:11	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 11:41	S2GN	ELLE

Client Sample ID: MW-521-W-200625

Lab Sample ID: 410-5798-10

Date Collected: 06/25/20 09:11

Matrix: Water

Date Received: 06/26/20 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	20776	07/09/20 16:25	LCW8	ELLE
Total/NA	Prep	3510C			17461	06/29/20 07:13	C4EI	ELLE
Total/NA	Analysis	8270D SIM		1	17764	06/30/20 04:17	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20557	07/09/20 05:41	UMDJ	ELLE
Total/NA	Prep	RSK-175			19552	07/06/20 10:10	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	19572	07/06/20 16:50	LXF2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Client Sample ID: MW-521-W-200625

Lab Sample ID: 410-5798-10

Date Collected: 06/25/20 09:11

Matrix: Water

Date Received: 06/26/20 10:24

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	3510C			17725	06/29/20 18:15	DFX4	ELLE
Total/NA	Cleanup	3630C			18797	07/02/20 01:34	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	18912	07/02/20 14:21	IUSB	ELLE
Total/NA	Analysis	300.0		5	24009	07/19/20 15:04	GJ35	ELLE
Total/NA	Analysis	300.0		5	17177	06/27/20 05:15	IGI3	ELLE
Dissolved	Prep	Non-Digest Prep			18105	06/30/20 10:52	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	22345	07/14/20 11:57	S2GN	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Benzene
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
300.0	Anions, Ion Chromatography	MCAWW	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

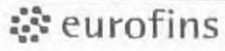
ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-5798-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-5798-1	MW-503-W-200625	Water	06/25/20 09:12	06/26/20 10:24	
410-5798-2	MW-504-W-200625	Water	06/25/20 10:12	06/26/20 10:24	
410-5798-3	MW-505-W-200625	Water	06/25/20 12:02	06/26/20 10:24	
410-5798-4	MW-509-W-200625	Water	06/25/20 12:52	06/26/20 10:24	
410-5798-5	MW-512-W-200625	Water	06/25/20 09:03	06/26/20 10:24	
410-5798-6	MW-513-W-200625	Water	06/25/20 10:13	06/26/20 10:24	
410-5798-7	MW-514-W-200625	Water	06/25/20 11:13	06/26/20 10:24	
410-5798-8	MW-516-W-200625	Water	06/25/20 11:53	06/26/20 10:24	
410-5798-9	MW-517-W-200625	Water	06/25/20 10:51	06/26/20 10:24	
410-5798-10	MW-521-W-200625	Water	06/25/20 09:11	06/26/20 10:24	



Lancaster Laboratories

Acct. # _____

410-5798 Chain of Custody

only

ed numbers

1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks								
Facility # Edmonds Terminal		WBS		Sediment <input type="checkbox"/>		Ground <input checked="" type="checkbox"/>		Surface <input type="checkbox"/>												SCR # _____						
Site Address 11720 Unoco Road, Edmonds WA				Potable <input type="checkbox"/>		NPDES <input type="checkbox"/>		Air <input type="checkbox"/>												<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ ox/y's on highest hit <input type="checkbox"/> Run _____ ox/y's on all hits						
Chevron PM Kim Jolitz		Lead Consultant Arcadis		Oil <input type="checkbox"/>		Total Number of Containers																				
Consultant V/Office 1100 Olive Way Suite 800 Seattle, WA 98101				BTEX-MTBE <input type="checkbox"/>		8260 <input checked="" type="checkbox"/>																				
Consultant Project Mgr Samuel Miles				8260 full scan		Oxygenates																				
Consultant Phone # 206-325-5254				NWTPH GX		NWTPH DX <input checked="" type="checkbox"/>		Silica Gel Cleanup <input checked="" type="checkbox"/>																		
Sampler Daniel Gilbert, Ryan Brauchla, Rikki Kusakabe				Lead <input type="checkbox"/>		Total		Diss. <input type="checkbox"/>		Method																
3 Composite				WAVPH <input type="checkbox"/>		WAEPH <input type="checkbox"/>		CP4HS 8260 SIM		Diss. Methane RSK 175		Sulfate + Nitrate 800.0		Diss. Manganese 200.8												
Sample Identification		Collected		Grab	Soil	Water	Oil	Total Number of Containers	BTEX-MTBE	8260	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH	CP4HS	8260 SIM	Diss. Methane RSK 175	Sulfate + Nitrate 800.0	Diss. Manganese 200.8	Remarks
MW-503	6-25-20	0912	X		X			14	X			X	X								X	X	X	X	X	+ Use standard SGC
MW-504	6-25-20	1012	X		X			14	X			X	X								X	X	X	X	X	+ Dissolved Manganese field filtered
MW-504-MS	6-25-20	1017	X		X			14	X			X	X								X	X	X	X	X	+ 8260 - Benzene only
MW-504-MSD	6-25-20	1022	X		X			14	X			X	X								X	X	X	X	X	
MW-505	6-25-20	1202	X		X			14	X			X	X								X	X	X	X	X	
MW-509	6-25-20	1252	X		X			14	X			X	X								X	X	X	X	X	
MW-512	6-25-20	0903	X		X			14	X			X	X								X	X	X	X	X	
MW-513	6-25-20	1013	X		X			14	X			X	X								X	X	X	X	X	
MW-514	6-25-20	1113	X		X			14	X			X	X								X	X	X	X	X	
MW-516	6-25-20	1153	X		X			14	X			X	X								X	X	X	X	X	
MW-517	6-25-20	1051	X		X			14	X			X	X								X	X	X	X	X	
MW-521	6-25-20	0911	X		X			14	X			X	X								X	X	X	X	X	
Trip Blank	-	-	X		X			14	X			X	X								X	X	X	X	X	
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by				Date		Time		Received by				Date		Time								
Standard 5 day 4 day				Ryan Brauchla				6-25-2020		1430		FedEx				6-25-2020		1430								
72 hour 48 hour 24 hour																										
8 Data Package Options (please circle if required)				Relinquished by Commercial Carrier				Date		Time		Received by				Date		Time								
Type I - Full Type VI (Raw Data)				UPS FedEx X Other								BZ				6/24/2020		1024								
				Temperature Upon Receipt				0.7/25°C				Custody Seals Intact?				Yes		No								

CCM

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-5798-1

Login Number: 5798

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-6317-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:
8/24/2020 4:46:21 PM

Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

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Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

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Amek Carter
Project Manager
8/24/2020 4:46:21 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Job ID: 410-6317-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-6317-1

Comments

No additional comments.

Receipt

The samples were received on 7/1/2020 10:28 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -0.1° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC

Method 300.0: The result for Sulfate was above the upper calibration range and is reported as an Estimated ("E") value in sample: MW-522-W-200630 (410-6317-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: The method blank had a detection for C12-C24 in the amount of 102 ug/L for preparation batch 410-19087 and 410-20361 which is above the reporting limit (RL) 100 ug/L and C24-C40 in the amount of 109 ug/L (>MDL). The sample was re-extracted outside the method required holding time and the method blank surrogate recovery is outside the QC limits. The data is reported from the first trial.

Method NWTPH-Dx: The method blank had a detection for C12-C24 in the amount of 102 ug/L for preparation batch 410-19087 and 410-20361 which is above the reporting limit (RL) 100 ug/L and C24-C40 in the amount of 109 ug/L (>MDL). Samples MW-8R-W-200630 (410-6317-1) and (410-6317-L-1-C DU) did not contain the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Surrogate recovery for the following samples were outside control limits: MW-8R-W-200630 (410-6317-1) and (410-6317-L-1-C DU). The sample duplicate confirms matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method NWTPH-Dx: The surrogate recovery for the blank associated with preparation batch 410-24822 and 410-25819 and analytical batch 410-25973 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Job ID: 410-6317-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Client Sample ID: MW-8R-W-200630

Lab Sample ID: 410-6317-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	56		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	10		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-522-W-200630

Lab Sample ID: 410-6317-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	110	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	53	F1	5.0	3.0	ug/L	1		RSK-175	Total/NA
C24-C40	240	J B	250	100	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	92	E F1	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	220		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.



Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Client Sample ID: MW-8R-W-200630

Lab Sample ID: 410-6317-1

Date Collected: 06/30/20 13:08

Matrix: Water

Date Received: 07/01/20 10:28

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/11/20 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/11/20 15:22	1
Dibromofluoromethane (Surr)	99		80 - 120					07/11/20 15:22	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/11/20 15:22	1
Toluene-d8 (Surr)	100		80 - 120					07/11/20 15:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Chrysene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		07/04/20 07:36	07/08/20 11:53	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		07/04/20 07:36	07/08/20 11:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	65		10 - 138				07/04/20 07:36	07/08/20 11:53	1
1-Methylnaphthalene-d10 (Surr)	66		15 - 121				07/04/20 07:36	07/08/20 11:53	1
Fluoranthene-d10 (Surr)	78		34 - 125				07/04/20 07:36	07/08/20 11:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 00:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					07/09/20 00:50	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 11:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	63		28 - 140				07/08/20 09:00	07/08/20 11:09	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	*1	100	46	ug/L		07/02/20 17:14	07/09/20 10:01	1
C24-C40	ND		260	100	ug/L		07/02/20 17:14	07/09/20 10:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.02		0 - 1				07/02/20 17:14	07/09/20 10:01	1
o-terphenyl (Surr)	46	X	50 - 150				07/02/20 17:14	07/09/20 10:01	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			07/01/20 19:32	5
Sulfate	56		5.0	1.5	mg/L			07/01/20 19:32	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Client Sample ID: MW-8R-W-200630

Lab Sample ID: 410-6317-1

Date Collected: 06/30/20 13:08

Matrix: Water

Date Received: 07/01/20 10:28

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	10		2.1	0.65	ug/L		07/02/20 13:47	07/08/20 18:53	1

Client Sample ID: MW-522-W-200630

Lab Sample ID: 410-6317-2

Date Collected: 06/30/20 11:50

Matrix: Water

Date Received: 07/01/20 10:28

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/11/20 14:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		07/11/20 14:16	1
Dibromofluoromethane (Surr)	99		80 - 120		07/11/20 14:16	1
4-Bromofluorobenzene (Surr)	92		80 - 120		07/11/20 14:16	1
Toluene-d8 (Surr)	100		80 - 120		07/11/20 14:16	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1
Chrysene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		07/04/20 07:36	07/08/20 10:21	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 10:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	56		10 - 138	07/04/20 07:36	07/08/20 10:21	1
1-Methylnaphthalene-d10 (Surr)	58		15 - 121	07/04/20 07:36	07/08/20 10:21	1
Fluoranthene-d10 (Surr)	88		34 - 125	07/04/20 07:36	07/08/20 10:21	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	110	J	250	19	ug/L			07/08/20 23:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		07/08/20 23:33	1
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		07/08/20 23:33	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	53	F1	5.0	3.0	ug/L		07/08/20 09:00	07/08/20 10:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	59		28 - 140	07/08/20 09:00	07/08/20 10:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	*1	100	46	ug/L		07/02/20 17:14	07/09/20 10:46	1
C24-C40	240	J B	250	100	ug/L		07/02/20 17:14	07/09/20 10:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Client Sample ID: MW-522-W-200630

Lab Sample ID: 410-6317-2

Date Collected: 06/30/20 11:50

Matrix: Water

Date Received: 07/01/20 10:28

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.01		0 - 1	07/02/20 17:14	07/09/20 10:46	1
<i>o- terphenyl (Surr)</i>	30	X	50 - 150	07/02/20 17:14	07/09/20 10:46	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			07/01/20 18:42	5
Sulfate	92	E F1	5.0	1.5	mg/L			07/01/20 18:42	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	220		2.1	0.65	ug/L		07/02/20 13:47	07/08/20 18:31	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-6317-1	MW-8R-W-200630	98	99	93	100
410-6317-2	MW-522-W-200630	100	99	92	100
410-6317-2 MS	MW-522-W-200630MS	94	96	98	103
410-6317-2 MSD	MW-522-W-200630MSD	96	97	99	102
LCS 410-21484/5	Lab Control Sample	98	97	98	102
LCSD 410-21484/7	Lab Control Sample Dup	98	97	99	102
MB 410-21484/9	Method Blank	98	98	93	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-6317-1	MW-8R-W-200630	65	66	78
410-6317-2	MW-522-W-200630	56	58	88
410-6317-2 MS	MW-522-W-200630MS	67	72	93
410-6317-2 MSD	MW-522-W-200630MSD	66	71	92
LCS 410-19322/2-A	Lab Control Sample	78	78	84
MB 410-19322/1-A	Method Blank	78	75	89

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)

MNPd10 = 1-Methylnaphthalene-d10 (Surr)

FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TFT-F1 (50-150)	TFT-F1 (50-150)
410-6317-1	MW-8R-W-200630	85	85
410-6317-2	MW-522-W-200630	86	86
410-6317-2 MS	MW-522-W-200630	77	77
410-6317-2 MS	MW-522-W-200630MS	77	77
410-6317-2 MSD	MW-522-W-200630MSD	75	75
LCS 410-20560/5	Lab Control Sample	79	79
LCSD 410-20560/6	Lab Control Sample Dup	78	78
MB 410-20560/4	Method Blank	85	85

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		TFT-F1	
Lab Sample ID	Client Sample ID		
410-6317-2 MSD	MW-522-W-200630		
Surrogate Legend			
TFT-F = a,a,a-Trifluorotoluene (fid)			

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		Propene1 (28-140)	
Lab Sample ID	Client Sample ID		
410-6317-1	MW-8R-W-200630	63	
410-6317-2	MW-522-W-200630	59	
410-6317-2 MS	MW-522-W-200630MS	48	
410-6317-2 MSD	MW-522-W-200630MSD	54	
LCS 410-20363/2-A	Lab Control Sample	99	
MB 410-20363/1-A	Method Blank	97	
Surrogate Legend			
Propene = Propene			

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		NDA (0-1)	OTP (50-150)
Lab Sample ID	Client Sample ID		
410-6317-1	MW-8R-W-200630	0.02	46 X
410-6317-1 DU	MW-8R-W-200630	0.004	45 X
410-6317-2	MW-522-W-200630	0.01	30 X
410-6317-2 MS	MW-522-W-200630MS	0.2	75
410-6317-2 MSD	MW-522-W-200630MSD	0.2	37 X
LCS 410-19087/2-B	Lab Control Sample	0	82
LCSD 410-19087/16-B	Lab Control Sample Dup	0	67
MB 410-19087/1-B	Method Blank	0.03	61
Surrogate Legend			
NDA = n-Decanoic Acid (Surr)			
OTP = o- terphenyl (Surr)			

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-21484/9
Matrix: Water
Analysis Batch: 21484

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L	-		07/11/20 10:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	98		80 - 120				07/11/20 10:42	1	
Dibromofluoromethane (Surr)	98		80 - 120				07/11/20 10:42	1	
4-Bromofluorobenzene (Surr)	93		80 - 120				07/11/20 10:42	1	
Toluene-d8 (Surr)	100		80 - 120				07/11/20 10:42	1	

Lab Sample ID: LCS 410-21484/5
Matrix: Water
Analysis Batch: 21484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzene	20.0	18.0		ug/L	-	90	80 - 120	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120				07/11/20 10:42	1
Dibromofluoromethane (Surr)	97		80 - 120				07/11/20 10:42	1
4-Bromofluorobenzene (Surr)	98		80 - 120				07/11/20 10:42	1
Toluene-d8 (Surr)	102		80 - 120				07/11/20 10:42	1

Lab Sample ID: LCSD 410-21484/7
Matrix: Water
Analysis Batch: 21484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	20.0	17.9		ug/L	-	89	80 - 120	1	30
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	98		80 - 120				07/11/20 10:42	1	
Dibromofluoromethane (Surr)	97		80 - 120				07/11/20 10:42	1	
4-Bromofluorobenzene (Surr)	99		80 - 120				07/11/20 10:42	1	
Toluene-d8 (Surr)	102		80 - 120				07/11/20 10:42	1	

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 21484

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	20.0		ug/L	-	100	80 - 120
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	94		80 - 120				07/11/20 10:42	1	
Dibromofluoromethane (Surr)	96		80 - 120				07/11/20 10:42	1	
4-Bromofluorobenzene (Surr)	98		80 - 120				07/11/20 10:42	1	
Toluene-d8 (Surr)	103		80 - 120				07/11/20 10:42	1	

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 21484

Client Sample ID: MW-522-W-200630MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	19.6		ug/L		98	80 - 120	2	30
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	96		80 - 120								
Dibromofluoromethane (Surr)	97		80 - 120								
4-Bromofluorobenzene (Surr)	99		80 - 120								
Toluene-d8 (Surr)	102		80 - 120								

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-19322/1-A
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19322

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Chrysene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		07/04/20 07:36	07/08/20 05:47	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	78		10 - 138				07/04/20 07:36	07/08/20 05:47	1
1-Methylnaphthalene-d10 (Surr)	75		15 - 121				07/04/20 07:36	07/08/20 05:47	1
Fluoranthene-d10 (Surr)	89		34 - 125				07/04/20 07:36	07/08/20 05:47	1

Lab Sample ID: LCS 410-19322/2-A
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.876		ug/L		88	61 - 117
Benzo[a]pyrene	1.00	0.893		ug/L		89	63 - 135
Benzo[b]fluoranthene	1.00	0.904		ug/L		90	66 - 138
Benzo[k]fluoranthene	1.00	0.839		ug/L		84	58 - 142
Chrysene	1.00	0.795		ug/L		79	61 - 117
Dibenz(a,h)anthracene	1.00	0.755		ug/L		75	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.828		ug/L		82	56 - 147
Surrogate	%Recovery	Qualifier	Limits				
Benzo(a)pyrene-d12 (Surr)	78		10 - 138				
1-Methylnaphthalene-d10 (Surr)	78		15 - 121				
Fluoranthene-d10 (Surr)	84		34 - 125				

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20205

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzo[a]anthracene	ND		1.03	1.02		ug/L		99		61 - 117
Benzo[a]pyrene	ND		1.04	0.767		ug/L		74		63 - 135
Benzo[b]fluoranthene	ND		1.04	0.851		ug/L		82		66 - 138
Benzo[k]fluoranthene	ND		1.03	0.739		ug/L		71		58 - 142
Chrysene	ND		1.03	0.833		ug/L		81		61 - 117
Dibenz(a,h)anthracene	ND		1.04	0.763		ug/L		74		51 - 139
Indeno[1,2,3-cd]pyrene	ND		1.04	0.753		ug/L		73		56 - 147
MS MS										
Surrogate	%Recovery	Qualifier	Limits							
<i>Benzo(a)pyrene-d12 (Surr)</i>	67		10 - 138							
<i>1-Methylnaphthalene-d10 (Surr)</i>	72		15 - 121							
<i>Fluoranthene-d10 (Surr)</i>	93		34 - 125							

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 20205

Client Sample ID: MW-522-W-200630MSD
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Benzo[a]anthracene	ND		1.05	1.05		ug/L		99		61 - 117	2	30
Benzo[a]pyrene	ND		1.05	0.763		ug/L		72		63 - 135	1	30
Benzo[b]fluoranthene	ND		1.05	0.943		ug/L		89		66 - 138	10	30
Benzo[k]fluoranthene	ND		1.05	0.836		ug/L		79		58 - 142	12	30
Chrysene	ND		1.05	0.846		ug/L		80		61 - 117	2	30
Dibenz(a,h)anthracene	ND		1.05	0.810		ug/L		77		51 - 139	6	30
Indeno[1,2,3-cd]pyrene	ND		1.05	0.816		ug/L		77		56 - 147	8	30
MSD MSD												
Surrogate	%Recovery	Qualifier	Limits									
<i>Benzo(a)pyrene-d12 (Surr)</i>	66		10 - 138									
<i>1-Methylnaphthalene-d10 (Surr)</i>	71		15 - 121									
<i>Fluoranthene-d10 (Surr)</i>	92		34 - 125									

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20559

Client Sample ID: MW-522-W-200630
Prep Type: Total/NA

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	77		50 - 150

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 20559

Client Sample ID: MW-522-W-200630
Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>			

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-20560/4
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/08/20 20:48	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					07/08/20 20:48	1

Lab Sample ID: LCS 410-20560/5
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1020		ug/L		93	64 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	79		50 - 150				

Lab Sample ID: LCSD 410-20560/6
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C7-C12 (1C)	1100	1020		ug/L		93	64 - 131	0	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150						

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20560

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	110	J	1120	1160		ug/L		94	80 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150						

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 20560

Client Sample ID: MW-522-W-200630MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C7-C12 (1C)	110	J	1120	1150		ug/L		94	80 - 120	0	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
a,a,a-Trifluorotoluene (fid) (1C)	75		50 - 150								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-20363/1-A
Matrix: Water
Analysis Batch: 20377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20363

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 09:36	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	97		28 - 140				07/08/20 09:00	07/08/20 09:36	1

Lab Sample ID: LCS 410-20363/2-A
Matrix: Water
Analysis Batch: 20377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20363

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	60.8		ug/L		102	85 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Propene (1C)	99		28 - 140				

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20377

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA
Prep Batch: 20363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	53	F1	59.4	81.2	F1	ug/L		47	73 - 125
Surrogate	MS %Recovery	MS Qualifier	Limits						
Propene (1C)	48		28 - 140						

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 20377

Client Sample ID: MW-522-W-200630MSD
Prep Type: Total/NA
Prep Batch: 20363

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	53	F1	59.4	88.9	F1	ug/L		60	73 - 125	9	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Propene (1C)	54		28 - 140								

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-19087/1-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	102		100	45	ug/L		07/02/20 17:14	07/09/20 05:51	1
C24-C40	109	J	250	100	ug/L		07/02/20 17:14	07/09/20 05:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.03		0 - 1				07/02/20 17:14	07/09/20 05:51	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-19087/1-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19087

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o-terphenyl (Surr)</i>	61		50 - 150	07/02/20 17:14	07/09/20 05:51	1

Lab Sample ID: LCS 410-19087/2-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0		0 - 1
<i>o-terphenyl (Surr)</i>	82		50 - 150

Lab Sample ID: LCSD 410-19087/16-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0		0 - 1
<i>o-terphenyl (Surr)</i>	67		50 - 150

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20625

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA
Prep Batch: 19087

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.2		0 - 1
<i>o-terphenyl (Surr)</i>	75		50 - 150

Lab Sample ID: 410-6317-2 MSD
Matrix: Water
Analysis Batch: 20625

Client Sample ID: MW-522-W-200630MSD
Prep Type: Total/NA
Prep Batch: 19087

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.2		0 - 1
<i>o-terphenyl (Surr)</i>	37	X	50 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-6317-1 DU
Matrix: Water
Analysis Batch: 20625

Client Sample ID: MW-8R-W-200630
Prep Type: Total/NA
Prep Batch: 19087

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C12-C24	ND	*1	ND	*1	ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.004		0 - 1					
<i>o-terphenyl (Surr)</i>	45	X	50 - 150					

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 410-18644/4
Matrix: Water
Analysis Batch: 18644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			07/01/20 18:26	1

Lab Sample ID: LCS 410-18644/3
Matrix: Water
Analysis Batch: 18644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 18644

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier							
Nitrogen, Nitrate	ND		2.50	2.56		mg/L		103	90 - 110

Lab Sample ID: 410-6317-2 DU
Matrix: Water
Analysis Batch: 18644

Client Sample ID: MW-522-W-200630DUP
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Nitrogen, Nitrate	ND		ND		mg/L		NC	15

Lab Sample ID: MB 410-18645/4
Matrix: Water
Analysis Batch: 18645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	ND		1.0	0.30	mg/L			07/01/20 18:26	1

Lab Sample ID: LCS 410-18645/3
Matrix: Water
Analysis Batch: 18645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 18645

Client Sample ID: MW-522-W-200630MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	92	E F1	25.0	133	E F1	mg/L		164	90 - 110

Lab Sample ID: 410-6317-2 DU
Matrix: Water
Analysis Batch: 18645

Client Sample ID: MW-522-W-200630DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	92	E F1	98.3	E	mg/L		7	15

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-19045/1-A
Matrix: Water
Analysis Batch: 20765

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19045

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		07/02/20 13:47	07/08/20 18:26	1

Lab Sample ID: LCS 410-19045/2-A
Matrix: Water
Analysis Batch: 20765

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19045

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	46.7		ug/L		93	85 - 115

Lab Sample ID: 410-6317-2 MS
Matrix: Water
Analysis Batch: 20765

Client Sample ID: MW-522-W-200630MS
Prep Type: Dissolved
Prep Batch: 19045

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	220		50.2	269	4	ug/L		92	70 - 130

Lab Sample ID: 410-6317-2 DU
Matrix: Water
Analysis Batch: 20765

Client Sample ID: MW-522-W-200630DUP
Prep Type: Dissolved
Prep Batch: 19045

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	220		224		ug/L		0.3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

GC/MS VOA

Analysis Batch: 21484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	8260D	
410-6317-2	MW-522-W-200630	Total/NA	Water	8260D	
MB 410-21484/9	Method Blank	Total/NA	Water	8260D	
LCS 410-21484/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-21484/7	Lab Control Sample Dup	Total/NA	Water	8260D	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	8260D	
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 19322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	3510C	
410-6317-2	MW-522-W-200630	Total/NA	Water	3510C	
MB 410-19322/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-19322/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	3510C	
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	3510C	

Analysis Batch: 20205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	8270D SIM	19322
410-6317-2	MW-522-W-200630	Total/NA	Water	8270D SIM	19322
MB 410-19322/1-A	Method Blank	Total/NA	Water	8270D SIM	19322
LCS 410-19322/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	19322
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	8270D SIM	19322
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	8270D SIM	19322

GC VOA

Prep Batch: 20363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	RSK-175	
410-6317-2	MW-522-W-200630	Total/NA	Water	RSK-175	
MB 410-20363/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-20363/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	RSK-175	
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	RSK-175	

Analysis Batch: 20377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	RSK-175	20363
410-6317-2	MW-522-W-200630	Total/NA	Water	RSK-175	20363
MB 410-20363/1-A	Method Blank	Total/NA	Water	RSK-175	20363
LCS 410-20363/2-A	Lab Control Sample	Total/NA	Water	RSK-175	20363
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	RSK-175	20363
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	RSK-175	20363

Analysis Batch: 20559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-2	MW-522-W-200630	Total/NA	Water	NWTPH-Gx	
410-6317-2 MS	MW-522-W-200630	Total/NA	Water	NWTPH-Gx	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

GC VOA (Continued)

Analysis Batch: 20559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-2 MSD	MW-522-W-200630	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 20560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	NWTPH-Gx	
410-6317-2	MW-522-W-200630	Total/NA	Water	NWTPH-Gx	
MB 410-20560/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-20560/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-20560/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	NWTPH-Gx	
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 19087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	3510C	
410-6317-2	MW-522-W-200630	Total/NA	Water	3510C	
MB 410-19087/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-19087/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-19087/16-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	3510C	
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	3510C	
410-6317-1 DU	MW-8R-W-200630	Total/NA	Water	3510C	

Prep Batch: 20213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-19087/1-B	Method Blank	Total/NA	Water	3510C	19087
LCS 410-19087/2-B	Lab Control Sample	Total/NA	Water	3510C	19087
LCSD 410-19087/16-B	Lab Control Sample Dup	Total/NA	Water	3510C	19087

Cleanup Batch: 20361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	3630C	19087
410-6317-2	MW-522-W-200630	Total/NA	Water	3630C	19087
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	3630C	19087
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	3630C	19087
410-6317-1 DU	MW-8R-W-200630	Total/NA	Water	3630C	19087

Analysis Batch: 20625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	NWTPH-Dx	20361
410-6317-2	MW-522-W-200630	Total/NA	Water	NWTPH-Dx	20361
MB 410-19087/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	20213
LCS 410-19087/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	20213
LCSD 410-19087/16-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	20213
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	NWTPH-Dx	20361
410-6317-2 MSD	MW-522-W-200630MSD	Total/NA	Water	NWTPH-Dx	20361
410-6317-1 DU	MW-8R-W-200630	Total/NA	Water	NWTPH-Dx	20361

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

HPLC/IC

Analysis Batch: 18644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	300.0	
410-6317-2	MW-522-W-200630	Total/NA	Water	300.0	
MB 410-18644/4	Method Blank	Total/NA	Water	300.0	
LCS 410-18644/3	Lab Control Sample	Total/NA	Water	300.0	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	300.0	
410-6317-2 DU	MW-522-W-200630DUP	Total/NA	Water	300.0	

Analysis Batch: 18645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Total/NA	Water	300.0	
410-6317-2	MW-522-W-200630	Total/NA	Water	300.0	
MB 410-18645/4	Method Blank	Total/NA	Water	300.0	
LCS 410-18645/3	Lab Control Sample	Total/NA	Water	300.0	
410-6317-2 MS	MW-522-W-200630MS	Total/NA	Water	300.0	
410-6317-2 DU	MW-522-W-200630DUP	Total/NA	Water	300.0	

Metals

Prep Batch: 19045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Dissolved	Water	Non-Digest Prep	
410-6317-2	MW-522-W-200630	Dissolved	Water	Non-Digest Prep	
MB 410-19045/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-19045/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-6317-2 MS	MW-522-W-200630MS	Dissolved	Water	Non-Digest Prep	
410-6317-2 DU	MW-522-W-200630DUP	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 20765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6317-1	MW-8R-W-200630	Dissolved	Water	200.8 Rev 5.4	19045
410-6317-2	MW-522-W-200630	Dissolved	Water	200.8 Rev 5.4	19045
MB 410-19045/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	19045
LCS 410-19045/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	19045
410-6317-2 MS	MW-522-W-200630MS	Dissolved	Water	200.8 Rev 5.4	19045
410-6317-2 DU	MW-522-W-200630DUP	Dissolved	Water	200.8 Rev 5.4	19045

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Client Sample ID: MW-8R-W-200630

Lab Sample ID: 410-6317-1

Date Collected: 06/30/20 13:08

Matrix: Water

Date Received: 07/01/20 10:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21484	07/11/20 15:22	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 11:53	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 00:50	UMDJ	ELLE
Total/NA	Prep	RSK-175			20363	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20377	07/08/20 11:09	IYN5	ELLE
Total/NA	Prep	3510C			19087	07/02/20 17:14	OT54	ELLE
Total/NA	Cleanup	3630C			20361	07/08/20 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 10:01	IUSB	ELLE
Total/NA	Analysis	300.0		5	18644	07/01/20 19:32	GJ35	ELLE
Total/NA	Analysis	300.0		5	18645	07/01/20 19:32	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19045	07/02/20 13:47	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	20765	07/08/20 18:53	S2GN	ELLE

Client Sample ID: MW-522-W-200630

Lab Sample ID: 410-6317-2

Date Collected: 06/30/20 11:50

Matrix: Water

Date Received: 07/01/20 10:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21484	07/11/20 14:16	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 10:21	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20559	07/08/20 23:33	UMDJ	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/08/20 23:33	UMDJ	ELLE
Total/NA	Prep	RSK-175			20363	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20377	07/08/20 10:13	IYN5	ELLE
Total/NA	Prep	3510C			19087	07/02/20 17:14	OT54	ELLE
Total/NA	Cleanup	3630C			20361	07/08/20 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 10:46	IUSB	ELLE
Total/NA	Analysis	300.0		5	18644	07/01/20 18:42	GJ35	ELLE
Total/NA	Analysis	300.0		5	18645	07/01/20 18:42	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19045	07/02/20 13:47	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	20765	07/08/20 18:31	S2GN	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Benzene
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
300.0	Anions, Ion Chromatography	MCAWW	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6317-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-6317-1	MW-8R-W-200630	Water	06/30/20 13:08	07/01/20 10:28	
410-6317-2	MW-522-W-200630	Water	06/30/20 11:50	07/01/20 10:28	

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Lancaster Laboratories

Acct. # _____



410-6317 Chain of Custody

Use only
circle #
with circled numbers.

Filter

1 Client Information			4 Matrix			5 Analyses Requested										SCR #: _____																																																																																																																																																																																					
Facility # <u>Edmonds Terminal</u> WBS			Sediment <input type="checkbox"/> <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Total Number of Containers _____ BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> Benzene only 8260 full scan Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAWPH <input type="checkbox"/> WAEPPH <input type="checkbox"/> cPAHs 8270 SIM Diss Methane RSK 175 Sulfate + Nitrate 300.0 Diss Manganese 200.8 (Filter)			Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits <input type="checkbox"/>										6 Remarks * use SGC * Dissolved Manganese field filtered * 8260 Benzene only																																																																																																																																																																																					
Site Address <u>11720 W Loco Rd, Edmonds, WA</u>																																																																																																																																																																																																					
Chevron PM <u>Kim Jolitz</u> Lead Consultant <u>Arcadis</u>																																																																																																																																																																																																					
Consultant/Office <u>1100 Olive Way, Suite 800, Seattle, WA</u>																																																																																																																																																																																																					
Consultant Project Mgr. <u>Samuel Miles</u> 98101																																																																																																																																																																																																					
Consultant Phone # _____			3 3 Grab <input type="checkbox"/> Composite <input type="checkbox"/>			2 2 Sample Identification <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Identification</th> <th colspan="2">Collected</th> <th rowspan="2">Grab</th> <th rowspan="2">Composite</th> <th rowspan="2">Soil</th> <th rowspan="2">Water</th> <th rowspan="2">Oil</th> <th rowspan="2">Total</th> <th rowspan="2">BTEX + MTBE</th> <th rowspan="2">8021</th> <th rowspan="2">8260</th> <th rowspan="2">Naphth</th> <th rowspan="2">Oxygenates</th> <th rowspan="2">NWTPH GX</th> <th rowspan="2">NWTPH DX</th> <th rowspan="2">Lead</th> <th rowspan="2">Total</th> <th rowspan="2">Diss.</th> <th rowspan="2">Method</th> <th rowspan="2">WAWPH</th> <th rowspan="2">WAEPPH</th> <th rowspan="2">cPAHs</th> <th rowspan="2">8270</th> <th rowspan="2">SIM</th> <th rowspan="2">Diss</th> <th rowspan="2">Methane</th> <th rowspan="2">RSK</th> <th rowspan="2">175</th> <th rowspan="2">Sulfate + Nitrate</th> <th rowspan="2">300.0</th> <th rowspan="2">Diss</th> <th rowspan="2">Manganese</th> <th rowspan="2">200.8</th> <th rowspan="2">(Filter)</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>MW-8B</td> <td>6-30</td> <td>1308</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>MW-522</td> <td>6-30</td> <td>1150</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>MW-522 MS</td> <td>6-30</td> <td>1155</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>MW-522 MSD</td> <td>6-30</td> <td>1200</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table>										Sample Identification	Collected		Grab	Composite	Soil	Water	Oil	Total	BTEX + MTBE	8021	8260	Naphth	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAWPH	WAEPPH	cPAHs	8270	SIM	Diss	Methane	RSK	175	Sulfate + Nitrate	300.0	Diss	Manganese	200.8	(Filter)	Date	Time	MW-8B	6-30	1308	X			X		14	X					X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MW-522	6-30	1150	X			X		14	X					X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	MW-522 MS	6-30	1155	X			X		14	X					X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	MW-522 MSD	6-30	1200	X			X		14	X					X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X
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Sampler <u>Daniel Sly Gilbert</u>																																																																																																																																																																																																					
7 7 Turnaround Time Requested (TAT) (please circle) Standard <input checked="" type="checkbox"/> 5 day 4 day 72 hour 48 hour 24 hour			Relinquished by <u>Daniel Sly Gilbert</u> Date <u>6-30-20</u> Time <u>1500</u>			Received by _____ Date _____ Time _____			Relinquished by _____ Date _____ Time _____			Received by _____ Date _____ Time _____																																																																																																																																																																																									
8 8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)			Relinquished by Commercial Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____			Received by <u>[Signature]</u> Date <u>7/1/20</u> Time <u>1028</u>			Temperature Upon Receipt <u>-0.1</u> °C			Custody Seals Intact? Yes No																																																																																																																																																																																									

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-6317-1

Login Number: 6317

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Rivera-Santa, Julissa

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	


ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-6434-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Amanda Bowring



Authorized for release by:
8/6/2020 1:04:46 PM

Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

LINKS

Review your project
results through
TotalAccess

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in black ink, reading "Amek Carter". The signature is written in a cursive style and is positioned above a horizontal blue line.

Amek Carter
Project Manager
8/6/2020 1:04:46 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Job ID: 410-6434-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Receipt

The samples were received on 7/2/2020 10:33 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 1.8° C.

Receipt Exceptions

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. MW-502-W-200701 (410-6434-3) the collection time is not listed on the COC. Per the bottle the time is 1300.

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. MW-104-W-200701 (410-6434-2) 15 containers were received for sample but only 14 containers listed on COC

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC

Method 300.0: The result for Sulfate was above the upper calibration range and is reported as an Estimated ("E") value in sample: MW-104-W-200701 (410-6434-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Surrogate recovery was outside control limits for the following sample: MW-511-W-200701 (410-6434-4). The sample was re-extracted outside the method required holding time and the sample surrogate is within control limits. The method blank surrogate in the second trial is outside the control limits. Data is reported from the first trial.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-20R-W-200701

Lab Sample ID: 410-6434-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	71		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	1100		100	30	mg/L	100		300.0	Total/NA
Manganese	570		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-104-W-200701

Lab Sample ID: 410-6434-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.011	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.013	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.021	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.020	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
Chrysene	0.014	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	0.051	J	0.075	0.021	ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.049	J	0.053	0.011	ug/L	1		8270D SIM	Total/NA
C7-C12 (1C)	190	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	310		5.0	3.0	ug/L	1		RSK-175	Total/NA
C12-C24	50	J	110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	130	J	260	110	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	100	E	5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	1300		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-502-W-200701

Lab Sample ID: 410-6434-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.017	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.044	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.052	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.050	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Chrysene	0.028	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	0.11		0.078	0.022	ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.11		0.056	0.011	ug/L	1		8270D SIM	Total/NA
Sulfate	4.7		1.0	0.30	mg/L	1		300.0	Total/NA
Manganese	290		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-511-W-200701

Lab Sample ID: 410-6434-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.81		0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	22		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	0.98	J	2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-526-W-200701

Lab Sample ID: 410-6434-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	440		250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	85	J	110	50	ug/L	1		NWTPH-Dx	Total/NA
Nitrogen, Nitrate	0.40	J	0.50	0.25	mg/L	5		300.0	Total/NA
Sulfate	14		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	260		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-532-W-200701

Lab Sample ID: 410-6434-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	97	J	110	50	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	210	J	280	110	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	17		5.0	1.5	mg/L	5		300.0	Total/NA
Manganese	19		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-200701

Lab Sample ID: 410-6434-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-20R-W-200701

Lab Sample ID: 410-6434-1

Date Collected: 07/01/20 12:00

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 15:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/13/20 15:00	1
Dibromofluoromethane (Surr)	99		80 - 120					07/13/20 15:00	1
4-Bromofluorobenzene (Surr)	92		80 - 120					07/13/20 15:00	1
Toluene-d8 (Surr)	101		80 - 120					07/13/20 15:00	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Chrysene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		07/04/20 07:36	07/08/20 12:54	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 12:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	20		10 - 138				07/04/20 07:36	07/08/20 12:54	1
1-Methylnaphthalene-d10 (Surr)	62		15 - 121				07/04/20 07:36	07/08/20 12:54	1
Fluoranthene-d10 (Surr)	84		34 - 125				07/04/20 07:36	07/08/20 12:54	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 01:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					07/09/20 01:17	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	71		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 11:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	64		28 - 140				07/08/20 09:00	07/08/20 11:47	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		07/06/20 18:00	07/09/20 02:50	1
C24-C40	ND		250	100	ug/L		07/06/20 18:00	07/09/20 02:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.004		0 - 1				07/06/20 18:00	07/09/20 02:50	1
o-terphenyl (Surr)	62		50 - 150				07/06/20 18:00	07/09/20 02:50	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			07/02/20 19:19	1
Sulfate	1100		100	30	mg/L			07/15/20 16:55	100

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-20R-W-200701

Lab Sample ID: 410-6434-1

Date Collected: 07/01/20 12:00

Matrix: Water

Date Received: 07/02/20 10:33

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	570		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:14	1

Client Sample ID: MW-104-W-200701

Lab Sample ID: 410-6434-2

Date Collected: 07/01/20 10:45

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 15:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 120		07/13/20 15:22	1
Dibromofluoromethane (Surr)	97		80 - 120		07/13/20 15:22	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/13/20 15:22	1
Toluene-d8 (Surr)	104		80 - 120		07/13/20 15:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.011	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1
Benzo[a]pyrene	0.013	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1
Benzo[b]fluoranthene	0.021	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1
Benzo[k]fluoranthene	0.020	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1
Chrysene	0.014	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1
Dibenz(a,h)anthracene	0.051	J	0.075	0.021	ug/L		07/04/20 07:36	07/08/20 13:25	1
Indeno[1,2,3-cd]pyrene	0.049	J	0.053	0.011	ug/L		07/04/20 07:36	07/08/20 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	21		10 - 138	07/04/20 07:36	07/08/20 13:25	1
1-Methylnaphthalene-d10 (Surr)	66		15 - 121	07/04/20 07:36	07/08/20 13:25	1
Fluoranthene-d10 (Surr)	93		34 - 125	07/04/20 07:36	07/08/20 13:25	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	190	J	250	19	ug/L			07/09/20 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150		07/09/20 01:42	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	310		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 12:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	70		28 - 140	07/08/20 09:00	07/08/20 12:06	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	50	J	110	48	ug/L		07/06/20 18:00	07/09/20 03:35	1
C24-C40	130	J	260	110	ug/L		07/06/20 18:00	07/09/20 03:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.06		0 - 1	07/06/20 18:00	07/09/20 03:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-104-W-200701

Lab Sample ID: 410-6434-2

Date Collected: 07/01/20 10:45

Matrix: Water

Date Received: 07/02/20 10:33

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -terphenyl (Surr)	75		50 - 150	07/06/20 18:00	07/09/20 03:35	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			07/02/20 18:13	5
Sulfate	100	E	5.0	1.5	mg/L			07/02/20 18:13	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1300		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:12	1

Client Sample ID: MW-502-W-200701

Lab Sample ID: 410-6434-3

Date Collected: 07/01/20 13:00

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane- <i>d</i> 4 (Surr)	99		80 - 120		07/13/20 15:44	1
Dibromofluoromethane (Surr)	100		80 - 120		07/13/20 15:44	1
<i>4</i> -Bromofluorobenzene (Surr)	95		80 - 120		07/13/20 15:44	1
Toluene- <i>d</i> 8 (Surr)	101		80 - 120		07/13/20 15:44	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.017	J	0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1
Benzo[a]pyrene	0.044	J	0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1
Benzo[b]fluoranthene	0.052	J	0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1
Benzo[k]fluoranthene	0.050	J	0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1
Chrysene	0.028	J	0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1
Dibenz(a,h)anthracene	0.11		0.078	0.022	ug/L		07/04/20 07:36	07/08/20 13:55	1
Indeno[1,2,3-cd]pyrene	0.11		0.056	0.011	ug/L		07/04/20 07:36	07/08/20 13:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene- <i>d</i> 12 (Surr)	55		10 - 138	07/04/20 07:36	07/08/20 13:55	1
<i>1</i> -Methylnaphthalene- <i>d</i> 10 (Surr)	56		15 - 121	07/04/20 07:36	07/08/20 13:55	1
Fluoranthene- <i>d</i> 10 (Surr)	78		34 - 125	07/04/20 07:36	07/08/20 13:55	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 02:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	86		50 - 150		07/09/20 02:08	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 12:44	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-502-W-200701

Lab Sample ID: 410-6434-3

Date Collected: 07/01/20 13:00

Matrix: Water

Date Received: 07/02/20 10:33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	07/08/20 09:00	07/08/20 12:44	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	51	ug/L		07/06/20 18:00	07/09/20 03:58	1
C24-C40	ND		280	110	ug/L		07/06/20 18:00	07/09/20 03:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.006		0 - 1	07/06/20 18:00	07/09/20 03:58	1
o-terphenyl (Surr)	50		50 - 150	07/06/20 18:00	07/09/20 03:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			07/02/20 19:36	1
Sulfate	4.7		1.0	0.30	mg/L			07/02/20 19:36	1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	290		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:21	1

Client Sample ID: MW-511-W-200701

Lab Sample ID: 410-6434-4

Date Collected: 07/01/20 11:20

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		07/13/20 16:06	1
Dibromofluoromethane (Surr)	98		80 - 120		07/13/20 16:06	1
4-Bromofluorobenzene (Surr)	93		80 - 120		07/13/20 16:06	1
Toluene-d8 (Surr)	101		80 - 120		07/13/20 16:06	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1
Chrysene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1
Dibenz(a,h)anthracene	ND		0.080	0.023	ug/L		07/04/20 07:36	07/08/20 14:26	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		07/04/20 07:36	07/08/20 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	72		10 - 138	07/04/20 07:36	07/08/20 14:26	1
1-Methylnaphthalene-d10 (Surr)	57		15 - 121	07/04/20 07:36	07/08/20 14:26	1
Fluoranthene-d10 (Surr)	70		34 - 125	07/04/20 07:36	07/08/20 14:26	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 02:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-511-W-200701

Lab Sample ID: 410-6434-4

Date Collected: 07/01/20 11:20

Matrix: Water

Date Received: 07/02/20 10:33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150		07/09/20 02:38	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	75		28 - 140	07/08/20 09:00	07/08/20 13:03	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		120	52	ug/L		07/06/20 18:00	07/09/20 04:21	1
C24-C40	ND		290	120	ug/L		07/06/20 18:00	07/09/20 04:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.002		0 - 1	07/06/20 18:00	07/09/20 04:21	1
<i>o-terphenyl (Surr)</i>	10	X	50 - 150	07/06/20 18:00	07/09/20 04:21	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.81		0.50	0.25	mg/L			07/02/20 18:29	5
Sulfate	22		5.0	1.5	mg/L			07/02/20 18:29	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.98	J	2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:23	1

Client Sample ID: MW-526-W-200701

Lab Sample ID: 410-6434-5

Date Collected: 07/01/20 09:50

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		80 - 120		07/13/20 16:28	1
<i>Dibromofluoromethane (Surr)</i>	102		80 - 120		07/13/20 16:28	1
<i>4-Bromofluorobenzene (Surr)</i>	100		80 - 120		07/13/20 16:28	1
<i>Toluene-d8 (Surr)</i>	101		80 - 120		07/13/20 16:28	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1
Chrysene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		07/04/20 07:36	07/08/20 14:57	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		07/04/20 07:36	07/08/20 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	48		10 - 138	07/04/20 07:36	07/08/20 14:57	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-526-W-200701

Lab Sample ID: 410-6434-5

Date Collected: 07/01/20 09:50

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	53		15 - 121	07/04/20 07:36	07/08/20 14:57	1
Fluoranthene-d10 (Surr)	83		34 - 125	07/04/20 07:36	07/08/20 14:57	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	440		250	19	ug/L			07/09/20 03:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		07/09/20 03:03	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	69		28 - 140	07/08/20 09:00	07/08/20 13:22	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	85	J	110	50	ug/L		07/06/20 18:00	07/09/20 04:43	1
C24-C40	ND		280	110	ug/L		07/06/20 18:00	07/09/20 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.04		0 - 1	07/06/20 18:00	07/09/20 04:43	1
o-terphenyl (Surr)	50		50 - 150	07/06/20 18:00	07/09/20 04:43	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.40	J	0.50	0.25	mg/L			07/02/20 17:56	5
Sulfate	14		5.0	1.5	mg/L			07/02/20 17:56	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	260		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:26	1

Client Sample ID: MW-532-W-200701

Lab Sample ID: 410-6434-6

Date Collected: 07/01/20 09:30

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		07/13/20 16:50	1
Dibromofluoromethane (Surr)	100		80 - 120		07/13/20 16:50	1
4-Bromofluorobenzene (Surr)	94		80 - 120		07/13/20 16:50	1
Toluene-d8 (Surr)	100		80 - 120		07/13/20 16:50	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-532-W-200701

Lab Sample ID: 410-6434-6

Date Collected: 07/01/20 09:30

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1
Chrysene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		07/04/20 07:36	07/08/20 15:27	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		07/04/20 07:36	07/08/20 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	76		10 - 138	07/04/20 07:36	07/08/20 15:27	1
1-Methylnaphthalene-d10 (Surr)	62		15 - 121	07/04/20 07:36	07/08/20 15:27	1
Fluoranthene-d10 (Surr)	99		34 - 125	07/04/20 07:36	07/08/20 15:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/09/20 03:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		07/09/20 03:29	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 13:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	77		28 - 140	07/08/20 09:00	07/08/20 13:40	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	97	J	110	50	ug/L		07/06/20 18:00	07/09/20 05:06	1
C24-C40	210	J	280	110	ug/L		07/06/20 18:00	07/09/20 05:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.02		0 - 1	07/06/20 18:00	07/09/20 05:06	1
o-terphenyl (Surr)	72		50 - 150	07/06/20 18:00	07/09/20 05:06	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			07/02/20 17:40	5
Sulfate	17		5.0	1.5	mg/L			07/02/20 17:40	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	19		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 17:28	1

Client Sample ID: QA-T-200701

Lab Sample ID: 410-6434-7

Date Collected: 07/01/20 00:00

Matrix: Water

Date Received: 07/02/20 10:33

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 12:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: QA-T-200701

Lab Sample ID: 410-6434-7

Date Collected: 07/01/20 00:00

Matrix: Water

Date Received: 07/02/20 10:33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		07/13/20 12:26	1
Dibromofluoromethane (Surr)	99		80 - 120		07/13/20 12:26	1
4-Bromofluorobenzene (Surr)	92		80 - 120		07/13/20 12:26	1
Toluene-d8 (Surr)	102		80 - 120		07/13/20 12:26	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/08/20 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		07/08/20 23:07	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-5994-E-6 MS	Matrix Spike	99	97	98	102
410-5994-J-6 MSD	Matrix Spike Duplicate	96	98	98	103
410-6434-1	MW-20R-W-200701	98	99	92	101
410-6434-2	MW-104-W-200701	96	97	96	104
410-6434-3	MW-502-W-200701	99	100	95	101
410-6434-4	MW-511-W-200701	97	98	93	101
410-6434-5	MW-526-W-200701	102	102	100	101
410-6434-6	MW-532-W-200701	98	100	94	100
410-6434-7	QA-T-200701	98	99	92	102
LCS 410-21715/5	Lab Control Sample	96	97	98	102
MB 410-21715/7	Method Blank	98	100	93	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-6317-I-2-A MSD	Matrix Spike Duplicate	66	71	92
410-6317-J-2-A MS	Matrix Spike	67	72	93
410-6434-1	MW-20R-W-200701	20	62	84
410-6434-2	MW-104-W-200701	21	66	93
410-6434-3	MW-502-W-200701	55	56	78
410-6434-4	MW-511-W-200701	72	57	70
410-6434-5	MW-526-W-200701	48	53	83
410-6434-6	MW-532-W-200701	76	62	99
LCS 410-19322/2-A	Lab Control Sample	78	78	84
MB 410-19322/1-A	Method Blank	78	75	89

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)

MNPd10 = 1-Methylnaphthalene-d10 (Surr)

FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1
		(50-150)
410-6317-D-2 MS	Matrix Spike	77
410-6317-D-2 MSD	Matrix Spike Duplicate	75
410-6434-1	MW-20R-W-200701	85
410-6434-2	MW-104-W-200701	84
410-6434-3	MW-502-W-200701	86

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Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-6434-4	MW-511-W-200701	85
410-6434-5	MW-526-W-200701	86
410-6434-6	MW-532-W-200701	85
410-6434-7	QA-T-200701	85
LCS 410-20560/5	Lab Control Sample	79
LCSD 410-20560/6	Lab Control Sample Dup	78
MB 410-20560/4	Method Blank	85

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-6434-1	MW-20R-W-200701	64
410-6434-2	MW-104-W-200701	70
410-6434-3	MW-502-W-200701	87
410-6434-4	MW-511-W-200701	75
410-6434-5	MW-526-W-200701	69
410-6434-6	MW-532-W-200701	77
410-6509-D-8-B MS	Matrix Spike	54
410-6509-D-8-C MSD	Matrix Spike Duplicate	65
LCS 410-20366/2-A	Lab Control Sample	107
MB 410-20366/1-A	Method Blank	95

Surrogate Legend

Propene = Propene

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-6434-1	MW-20R-W-200701	0.004	62
410-6434-1 DU	MW-20R-W-200701	0.003	61
410-6434-2	MW-104-W-200701	0.06	75
410-6434-3	MW-502-W-200701	0.006	50
410-6434-4	MW-511-W-200701	0.002	10 X
410-6434-5	MW-526-W-200701	0.04	50
410-6434-6	MW-532-W-200701	0.02	72
LCS 410-19683/2-B	Lab Control Sample	0.2	64
LCSD 410-19683/3-B	Lab Control Sample Dup	0.2	71
MB 410-19683/1-B	Method Blank	0.002	67

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o-terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-21715/7
Matrix: Water
Analysis Batch: 21715

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			07/13/20 10:54	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					07/13/20 10:54	1
Dibromofluoromethane (Surr)	100		80 - 120					07/13/20 10:54	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/13/20 10:54	1
Toluene-d8 (Surr)	101		80 - 120					07/13/20 10:54	1

Lab Sample ID: LCS 410-21715/5
Matrix: Water
Analysis Batch: 21715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	18.9		ug/L		94	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		80 - 120				
Dibromofluoromethane (Surr)	97		80 - 120				
4-Bromofluorobenzene (Surr)	98		80 - 120				
Toluene-d8 (Surr)	102		80 - 120				

Lab Sample ID: 410-5994-E-6 MS
Matrix: Water
Analysis Batch: 21715

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	20.8		ug/L		104	80 - 120
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	99		80 - 120						
Dibromofluoromethane (Surr)	97		80 - 120						
4-Bromofluorobenzene (Surr)	98		80 - 120						
Toluene-d8 (Surr)	102		80 - 120						

Lab Sample ID: 410-5994-J-6 MSD
Matrix: Water
Analysis Batch: 21715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	20.3		ug/L		101	80 - 120	2	30
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	96		80 - 120								
Dibromofluoromethane (Surr)	98		80 - 120								
4-Bromofluorobenzene (Surr)	98		80 - 120								
Toluene-d8 (Surr)	103		80 - 120								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-19322/1-A
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19322

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Chrysene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		07/04/20 07:36	07/08/20 05:47	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		07/04/20 07:36	07/08/20 05:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	78		10 - 138	07/04/20 07:36	07/08/20 05:47	1
1-Methylnaphthalene-d10 (Surr)	75		15 - 121	07/04/20 07:36	07/08/20 05:47	1
Fluoranthene-d10 (Surr)	89		34 - 125	07/04/20 07:36	07/08/20 05:47	1

Lab Sample ID: LCS 410-19322/2-A
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.876		ug/L		88	61 - 117
Benzo[a]pyrene	1.00	0.893		ug/L		89	63 - 135
Benzo[b]fluoranthene	1.00	0.904		ug/L		90	66 - 138
Benzo[k]fluoranthene	1.00	0.839		ug/L		84	58 - 142
Chrysene	1.00	0.795		ug/L		79	61 - 117
Dibenz(a,h)anthracene	1.00	0.755		ug/L		75	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.828		ug/L		82	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	78		10 - 138
1-Methylnaphthalene-d10 (Surr)	78		15 - 121
Fluoranthene-d10 (Surr)	84		34 - 125

Lab Sample ID: 410-6317-I-2-A MSD
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	ND		1.05	1.05		ug/L		99	61 - 117	2	30
Benzo[a]pyrene	ND		1.05	0.763		ug/L		72	63 - 135	1	30
Benzo[b]fluoranthene	ND		1.05	0.943		ug/L		89	66 - 138	10	30
Benzo[k]fluoranthene	ND		1.05	0.836		ug/L		79	58 - 142	12	30
Chrysene	ND		1.05	0.846		ug/L		80	61 - 117	2	30
Dibenz(a,h)anthracene	ND		1.05	0.810		ug/L		77	51 - 139	6	30
Indeno[1,2,3-cd]pyrene	ND		1.05	0.816		ug/L		77	56 - 147	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	66		10 - 138
1-Methylnaphthalene-d10 (Surr)	71		15 - 121

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-6317-I-2-A MSD
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 19322

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Fluoranthene-d10 (Surr)	92		34 - 125

Lab Sample ID: 410-6317-J-2-A MS
Matrix: Water
Analysis Batch: 20205

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 19322

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Benzo[a]anthracene	ND		1.03	1.02		ug/L		99	61 - 117
Benzo[a]pyrene	ND		1.04	0.767		ug/L		74	63 - 135
Benzo[b]fluoranthene	ND		1.04	0.851		ug/L		82	66 - 138
Benzo[k]fluoranthene	ND		1.03	0.739		ug/L		71	58 - 142
Chrysene	ND		1.03	0.833		ug/L		81	61 - 117
Dibenz(a,h)anthracene	ND		1.04	0.763		ug/L		74	51 - 139
Indeno[1,2,3-cd]pyrene	ND		1.04	0.753		ug/L		73	56 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	67		10 - 138
1-Methylnaphthalene-d10 (Surr)	72		15 - 121
Fluoranthene-d10 (Surr)	93		34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-20560/4
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			07/08/20 20:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		07/08/20 20:48	1

Lab Sample ID: LCS 410-20560/5
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1020		ug/L		93	64 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	79		50 - 150

Lab Sample ID: LCSD 410-20560/6
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1020		ug/L		93	64 - 131	0	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150

Lab Sample ID: 410-6317-D-2 MS
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	110	J	1120	1160		ug/L		94	80 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150

Lab Sample ID: 410-6317-D-2 MSD
Matrix: Water
Analysis Batch: 20560

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	110	J	1120	1150		ug/L		94	80 - 120	0	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	75		50 - 150

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-20366/1-A
Matrix: Water
Analysis Batch: 20373

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		07/08/20 09:00	07/08/20 09:37	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Propene (1C)	95		28 - 140	07/08/20 09:00	07/08/20 09:37	1

Lab Sample ID: LCS 410-20366/2-A
Matrix: Water
Analysis Batch: 20373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	66.3		ug/L		112	85 - 115

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Propene (1C)	107		28 - 140

Lab Sample ID: 410-6509-D-8-B MS
Matrix: Water
Analysis Batch: 20373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20366

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	50	F1	59.4	92.7	F1	ug/L		72	73 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 410-6509-D-8-B MS
Matrix: Water
Analysis Batch: 20373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20366

Surrogate	MS %Recovery	MS Qualifier	Limits
Propene (1C)	54		28 - 140

Lab Sample ID: 410-6509-D-8-C MSD
Matrix: Water
Analysis Batch: 20373

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20366

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	50	F1	59.4	105		ug/L		93	73 - 125	13	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Propene (1C)	65		28 - 140								

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-19683/1-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		07/06/20 18:00	07/09/20 01:42	1
C24-C40	ND		250	100	ug/L		07/06/20 18:00	07/09/20 01:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
n-Decanoic Acid (Surr)	0.002		0 - 1	07/06/20 18:00	07/09/20 01:42	1			
o-terphenyl (Surr)	67		50 - 150	07/06/20 18:00	07/09/20 01:42	1			

Lab Sample ID: LCS 410-19683/2-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	257		ug/L		43	10 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
n-Decanoic Acid (Surr)	0.2		0 - 1				
o-terphenyl (Surr)	64		50 - 150				

Lab Sample ID: LCSD 410-19683/3-B
Matrix: Water
Analysis Batch: 20625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19683

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	600	290		ug/L		48	10 - 115	12	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
n-Decanoic Acid (Surr)	0.2		0 - 1						
o-terphenyl (Surr)	71		50 - 150						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-6434-1 DU
Matrix: Water
Analysis Batch: 20625

Client Sample ID: MW-20R-W-200701
Prep Type: Total/NA
Prep Batch: 19683

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.003		0 - 1					
<i>o-terphenyl (Surr)</i>	61		50 - 150					

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 410-19076/4
Matrix: Water
Analysis Batch: 19076

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			07/02/20 16:17	1

Lab Sample ID: LCS 410-19076/3
Matrix: Water
Analysis Batch: 19076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 410-6566-D-7 MS
Matrix: Water
Analysis Batch: 19076

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier							
Nitrogen, Nitrate	0.36	J	2.50	3.00		mg/L		106	90 - 110

Lab Sample ID: 410-6566-D-7 DU
Matrix: Water
Analysis Batch: 19076

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Nitrogen, Nitrate	0.36	J	0.380	J	mg/L		4	15

Lab Sample ID: MB 410-19077/4
Matrix: Water
Analysis Batch: 19077

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	ND		1.0	0.30	mg/L			07/02/20 16:17	1

Lab Sample ID: LCS 410-19077/3
Matrix: Water
Analysis Batch: 19077

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 630-1013-R-1 MS
Matrix: Water
Analysis Batch: 19077

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	24	F1	25.0	52.1	F1	mg/L		114	90 - 110

Lab Sample ID: 630-1013-R-1 DU
Matrix: Water
Analysis Batch: 19077

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	24	F1	23.9		mg/L		0.9	15

Lab Sample ID: MB 410-22709/4
Matrix: Water
Analysis Batch: 22709

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			07/15/20 06:45	1

Lab Sample ID: LCS 410-22709/3
Matrix: Water
Analysis Batch: 22709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.59		mg/L		101	90 - 110

Lab Sample ID: 410-4874-V-9 MS
Matrix: Water
Analysis Batch: 22709

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	9.5		25.0	34.3		mg/L		100	90 - 110

Lab Sample ID: 410-4874-V-9 DU
Matrix: Water
Analysis Batch: 22709

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	9.5		9.08		mg/L		4	15

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-19337/1-A
Matrix: Water
Analysis Batch: 23177

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19337

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		07/05/20 04:39	07/15/20 16:54	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-19337/2-A
Matrix: Water
Analysis Batch: 23177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19337

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	50.2	57.7		ug/L		115	85 - 115

Lab Sample ID: 410-6509-G-8-A MSD
Matrix: Water
Analysis Batch: 23177

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 19337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Manganese	22		50.2	73.1		ug/L		102	70 - 130	2	20

Lab Sample ID: 410-6509-N-8-C MS
Matrix: Water
Analysis Batch: 23177

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 19337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	22		50.2	72.0		ug/L		100	70 - 130

Lab Sample ID: 410-6509-N-8-B DU
Matrix: Water
Analysis Batch: 23177

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 19337

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Manganese	22		22.4		ug/L		3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

GC/MS VOA

Analysis Batch: 21715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	8260D	
410-6434-2	MW-104-W-200701	Total/NA	Water	8260D	
410-6434-3	MW-502-W-200701	Total/NA	Water	8260D	
410-6434-4	MW-511-W-200701	Total/NA	Water	8260D	
410-6434-5	MW-526-W-200701	Total/NA	Water	8260D	
410-6434-6	MW-532-W-200701	Total/NA	Water	8260D	
410-6434-7	QA-T-200701	Total/NA	Water	8260D	
MB 410-21715/7	Method Blank	Total/NA	Water	8260D	
LCS 410-21715/5	Lab Control Sample	Total/NA	Water	8260D	
410-5994-E-6 MS	Matrix Spike	Total/NA	Water	8260D	
410-5994-J-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 19322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	3510C	
410-6434-2	MW-104-W-200701	Total/NA	Water	3510C	
410-6434-3	MW-502-W-200701	Total/NA	Water	3510C	
410-6434-4	MW-511-W-200701	Total/NA	Water	3510C	
410-6434-5	MW-526-W-200701	Total/NA	Water	3510C	
410-6434-6	MW-532-W-200701	Total/NA	Water	3510C	
MB 410-19322/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-19322/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-6317-I-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	
410-6317-J-2-A MS	Matrix Spike	Total/NA	Water	3510C	

Analysis Batch: 20205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	8270D SIM	19322
410-6434-2	MW-104-W-200701	Total/NA	Water	8270D SIM	19322
410-6434-3	MW-502-W-200701	Total/NA	Water	8270D SIM	19322
410-6434-4	MW-511-W-200701	Total/NA	Water	8270D SIM	19322
410-6434-5	MW-526-W-200701	Total/NA	Water	8270D SIM	19322
410-6434-6	MW-532-W-200701	Total/NA	Water	8270D SIM	19322
MB 410-19322/1-A	Method Blank	Total/NA	Water	8270D SIM	19322
LCS 410-19322/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	19322
410-6317-I-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270D SIM	19322
410-6317-J-2-A MS	Matrix Spike	Total/NA	Water	8270D SIM	19322

GC VOA

Prep Batch: 20366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	RSK-175	
410-6434-2	MW-104-W-200701	Total/NA	Water	RSK-175	
410-6434-3	MW-502-W-200701	Total/NA	Water	RSK-175	
410-6434-4	MW-511-W-200701	Total/NA	Water	RSK-175	
410-6434-5	MW-526-W-200701	Total/NA	Water	RSK-175	
410-6434-6	MW-532-W-200701	Total/NA	Water	RSK-175	
MB 410-20366/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-20366/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

GC VOA (Continued)

Prep Batch: 20366 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6509-D-8-B MS	Matrix Spike	Total/NA	Water	RSK-175	
410-6509-D-8-C MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	

Analysis Batch: 20373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	RSK-175	20366
410-6434-2	MW-104-W-200701	Total/NA	Water	RSK-175	20366
410-6434-3	MW-502-W-200701	Total/NA	Water	RSK-175	20366
410-6434-4	MW-511-W-200701	Total/NA	Water	RSK-175	20366
410-6434-5	MW-526-W-200701	Total/NA	Water	RSK-175	20366
410-6434-6	MW-532-W-200701	Total/NA	Water	RSK-175	20366
MB 410-20366/1-A	Method Blank	Total/NA	Water	RSK-175	20366
LCS 410-20366/2-A	Lab Control Sample	Total/NA	Water	RSK-175	20366
410-6509-D-8-B MS	Matrix Spike	Total/NA	Water	RSK-175	20366
410-6509-D-8-C MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	20366

Analysis Batch: 20560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-2	MW-104-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-3	MW-502-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-4	MW-511-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-5	MW-526-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-6	MW-532-W-200701	Total/NA	Water	NWTPH-Gx	
410-6434-7	QA-T-200701	Total/NA	Water	NWTPH-Gx	
MB 410-20560/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-20560/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-20560/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-6317-D-2 MS	Matrix Spike	Total/NA	Water	NWTPH-Gx	
410-6317-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 19683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	3510C	
410-6434-2	MW-104-W-200701	Total/NA	Water	3510C	
410-6434-3	MW-502-W-200701	Total/NA	Water	3510C	
410-6434-4	MW-511-W-200701	Total/NA	Water	3510C	
410-6434-5	MW-526-W-200701	Total/NA	Water	3510C	
410-6434-6	MW-532-W-200701	Total/NA	Water	3510C	
MB 410-19683/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-19683/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-19683/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-6434-1 DU	MW-20R-W-200701	Total/NA	Water	3510C	

Prep Batch: 20211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-19683/1-B	Method Blank	Total/NA	Water	3510C	19683
LCS 410-19683/2-B	Lab Control Sample	Total/NA	Water	3510C	19683
LCSD 410-19683/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	19683

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

GC Semi VOA

Cleanup Batch: 20351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	3630C	19683
410-6434-2	MW-104-W-200701	Total/NA	Water	3630C	19683
410-6434-3	MW-502-W-200701	Total/NA	Water	3630C	19683
410-6434-4	MW-511-W-200701	Total/NA	Water	3630C	19683
410-6434-5	MW-526-W-200701	Total/NA	Water	3630C	19683
410-6434-6	MW-532-W-200701	Total/NA	Water	3630C	19683
410-6434-1 DU	MW-20R-W-200701	Total/NA	Water	3630C	19683

Analysis Batch: 20625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	NWTPH-Dx	20351
410-6434-2	MW-104-W-200701	Total/NA	Water	NWTPH-Dx	20351
410-6434-3	MW-502-W-200701	Total/NA	Water	NWTPH-Dx	20351
410-6434-4	MW-511-W-200701	Total/NA	Water	NWTPH-Dx	20351
410-6434-5	MW-526-W-200701	Total/NA	Water	NWTPH-Dx	20351
410-6434-6	MW-532-W-200701	Total/NA	Water	NWTPH-Dx	20351
MB 410-19683/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	20211
LCS 410-19683/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	20211
LCSD 410-19683/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	20211
410-6434-1 DU	MW-20R-W-200701	Total/NA	Water	NWTPH-Dx	20351

HPLC/IC

Analysis Batch: 19076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	300.0	
410-6434-2	MW-104-W-200701	Total/NA	Water	300.0	
410-6434-3	MW-502-W-200701	Total/NA	Water	300.0	
410-6434-4	MW-511-W-200701	Total/NA	Water	300.0	
410-6434-5	MW-526-W-200701	Total/NA	Water	300.0	
410-6434-6	MW-532-W-200701	Total/NA	Water	300.0	
MB 410-19076/4	Method Blank	Total/NA	Water	300.0	
LCS 410-19076/3	Lab Control Sample	Total/NA	Water	300.0	
410-6566-D-7 MS	Matrix Spike	Total/NA	Water	300.0	
410-6566-D-7 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 19077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-2	MW-104-W-200701	Total/NA	Water	300.0	
410-6434-3	MW-502-W-200701	Total/NA	Water	300.0	
410-6434-4	MW-511-W-200701	Total/NA	Water	300.0	
410-6434-5	MW-526-W-200701	Total/NA	Water	300.0	
410-6434-6	MW-532-W-200701	Total/NA	Water	300.0	
MB 410-19077/4	Method Blank	Total/NA	Water	300.0	
LCS 410-19077/3	Lab Control Sample	Total/NA	Water	300.0	
630-1013-R-1 MS	Matrix Spike	Total/NA	Water	300.0	
630-1013-R-1 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 22709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Total/NA	Water	300.0	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

HPLC/IC (Continued)

Analysis Batch: 22709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-22709/4	Method Blank	Total/NA	Water	300.0	
LCS 410-22709/3	Lab Control Sample	Total/NA	Water	300.0	
410-4874-V-9 MS	Matrix Spike	Total/NA	Water	300.0	
410-4874-V-9 DU	Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 19337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Dissolved	Water	Non-Digest Prep	
410-6434-2	MW-104-W-200701	Dissolved	Water	Non-Digest Prep	
410-6434-3	MW-502-W-200701	Dissolved	Water	Non-Digest Prep	
410-6434-4	MW-511-W-200701	Dissolved	Water	Non-Digest Prep	
410-6434-5	MW-526-W-200701	Dissolved	Water	Non-Digest Prep	
410-6434-6	MW-532-W-200701	Dissolved	Water	Non-Digest Prep	
MB 410-19337/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-19337/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-6509-G-8-A MSD	Matrix Spike Duplicate	Dissolved	Water	Non-Digest Prep	
410-6509-N-8-C MS	Matrix Spike	Dissolved	Water	Non-Digest Prep	
410-6509-N-8-B DU	Duplicate	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 23177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-6434-1	MW-20R-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
410-6434-2	MW-104-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
410-6434-3	MW-502-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
410-6434-4	MW-511-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
410-6434-5	MW-526-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
410-6434-6	MW-532-W-200701	Dissolved	Water	200.8 Rev 5.4	19337
MB 410-19337/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	19337
LCS 410-19337/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	19337
410-6509-G-8-A MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 Rev 5.4	19337
410-6509-N-8-C MS	Matrix Spike	Dissolved	Water	200.8 Rev 5.4	19337
410-6509-N-8-B DU	Duplicate	Dissolved	Water	200.8 Rev 5.4	19337

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-20R-W-200701

Lab Sample ID: 410-6434-1

Date Collected: 07/01/20 12:00

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 15:00	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 12:54	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 01:17	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 11:47	IYN5	ELLE
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 00:45	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 02:50	IUSB	ELLE
Total/NA	Analysis	300.0		1	19076	07/02/20 19:19	GJ35	ELLE
Total/NA	Analysis	300.0		100	22709	07/15/20 16:55	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:14	S2GN	ELLE

Client Sample ID: MW-104-W-200701

Lab Sample ID: 410-6434-2

Date Collected: 07/01/20 10:45

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 15:22	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 13:25	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 01:42	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 12:06	IYN5	ELLE
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 09:11	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 03:35	IUSB	ELLE
Total/NA	Analysis	300.0		5	19076	07/02/20 18:13	GJ35	ELLE
Total/NA	Analysis	300.0		5	19077	07/02/20 18:13	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:12	S2GN	ELLE

Client Sample ID: MW-502-W-200701

Lab Sample ID: 410-6434-3

Date Collected: 07/01/20 13:00

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 15:44	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 13:55	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 02:08	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 12:44	IYN5	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-502-W-200701

Lab Sample ID: 410-6434-3

Date Collected: 07/01/20 13:00

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 09:11	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 03:58	IUSB	ELLE
Total/NA	Analysis	300.0		1	19076	07/02/20 19:36	GJ35	ELLE
Total/NA	Analysis	300.0		1	19077	07/02/20 19:36	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:21	S2GN	ELLE

Client Sample ID: MW-511-W-200701

Lab Sample ID: 410-6434-4

Date Collected: 07/01/20 11:20

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 16:06	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 14:26	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 02:38	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 13:03	IYN5	ELLE
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 09:12	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 04:21	IUSB	ELLE
Total/NA	Analysis	300.0		5	19076	07/02/20 18:29	GJ35	ELLE
Total/NA	Analysis	300.0		5	19077	07/02/20 18:29	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:23	S2GN	ELLE

Client Sample ID: MW-526-W-200701

Lab Sample ID: 410-6434-5

Date Collected: 07/01/20 09:50

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 16:28	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 14:57	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 03:03	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 13:22	IYN5	ELLE
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 09:12	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 04:43	IUSB	ELLE
Total/NA	Analysis	300.0		5	19076	07/02/20 17:56	GJ35	ELLE
Total/NA	Analysis	300.0		5	19077	07/02/20 17:56	GJ35	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Client Sample ID: MW-526-W-200701

Lab Sample ID: 410-6434-5

Date Collected: 07/01/20 09:50

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:26	S2GN	ELLE

Client Sample ID: MW-532-W-200701

Lab Sample ID: 410-6434-6

Date Collected: 07/01/20 09:30

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 16:50	NSK7	ELLE
Total/NA	Prep	3510C			19322	07/04/20 07:36	UKQ8	ELLE
Total/NA	Analysis	8270D SIM		1	20205	07/08/20 15:27	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/09/20 03:29	UMDJ	ELLE
Total/NA	Prep	RSK-175			20366	07/08/20 09:00	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	20373	07/08/20 13:40	IYN5	ELLE
Total/NA	Prep	3510C			19683	07/06/20 18:00	DFX4	ELLE
Total/NA	Cleanup	3630C			20351	07/08/20 09:12	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	20625	07/09/20 05:06	IUSB	ELLE
Total/NA	Analysis	300.0		5	19076	07/02/20 17:40	GJ35	ELLE
Total/NA	Analysis	300.0		5	19077	07/02/20 17:40	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			19337	07/05/20 04:39	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	23177	07/15/20 17:28	S2GN	ELLE

Client Sample ID: QA-T-200701

Lab Sample ID: 410-6434-7

Date Collected: 07/01/20 00:00

Matrix: Water

Date Received: 07/02/20 10:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	21715	07/13/20 12:26	NSK7	ELLE
Total/NA	Analysis	NWTPH-Gx		1	20560	07/08/20 23:07	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Benzene
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
300.0	Anions, Ion Chromatography	MCAWW	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-6434-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-6434-1	MW-20R-W-200701	Water	07/01/20 12:00	07/02/20 10:33	
410-6434-2	MW-104-W-200701	Water	07/01/20 10:45	07/02/20 10:33	
410-6434-3	MW-502-W-200701	Water	07/01/20 13:00	07/02/20 10:33	
410-6434-4	MW-511-W-200701	Water	07/01/20 11:20	07/02/20 10:33	
410-6434-5	MW-526-W-200701	Water	07/01/20 09:50	07/02/20 10:33	
410-6434-6	MW-532-W-200701	Water	07/01/20 09:30	07/02/20 10:33	
410-6434-7	QA-T-200701	Water	07/01/20 00:00	07/02/20 10:33	



Lancaster Laboratories

Acct. # _____

410-6434 Chain of Custody

Numbers _____

1 Client Information				4 Matrix			5 Analyses Requested										6 Remarks							
Facility # <u>Edmonds Terminal</u> WBS Site Address <u>11720 UNOCO Road, Edmonds, WA</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant <u>Arcadis</u> Consultant/Office <u>Arcadis / 1100 Olive way, suite 800, Seattle, WA</u> Consultant Project Mgr. <u>Sam Miles</u> 95101 Consultant Phone # _____				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Oil			Total Number of Containers <input type="checkbox"/> 8260 + MTBE <input type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth 8260 full scan Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAWPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>CPAHs 8270 SIM</u> <u>Diss Methane RSK 175</u> <u>Sulfate + Nitrate 300.0</u> <u>Diss Manganese 200.8</u>										SCR #: _____ <input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy/s on highest hit <input type="checkbox"/> Run _____ oxy/s on all hits							
2 Sample Identification		3 Collected		Grab	Composite																			
Date	Time	Date	Time			Soil	Water	Oil	Total Number of Containers	8260 + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAWPH	WAEPH
<u>MW - 202</u>	<u>7-1-20</u>	<u>1200</u>	<u>X</u>			<u>X</u>		<u>1</u>	<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							<u>* Use Standard SGC</u>
<u>MW - 104</u>	<u>7-1-20</u>	<u>1045</u>	<u>X</u>			<u>X</u>			<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							<u>* Dissolved Manganese field filtered</u>
<u>MW - 502</u>	<u>7-1-20</u>		<u>X</u>			<u>X</u>			<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							<u>* 8260 Benzene only</u>
<u>MW - 511</u>	<u>7-1-20</u>	<u>1120</u>	<u>X</u>			<u>X</u>			<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>MW - 526</u>	<u>7-1-20</u>	<u>950</u>	<u>X</u>			<u>X</u>			<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>MW - 532</u>	<u>7-1-20</u>	<u>930</u>	<u>X</u>			<u>X</u>			<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>							
7 Turnaround Time Requested (TAT) (please circle) <input checked="" type="radio"/> Standard 5 day 4 day 72 hour 48 hour 24 hour				Relinquished by <u>Sam Miles</u> Date <u>7-1-20</u> Time <u>1500</u>		Received by <u>FedEx</u> Date _____ Time _____		Relinquished by _____ Date _____ Time _____		Received by _____ Date _____ Time _____		Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____		Received by _____ Date <u>7/2/20</u> Time <u>1033</u>		Temperature Upon Receipt <u>21.1</u> °C Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								

CRM

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-6434-1

Login Number: 6434

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-14713-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
10/27/2020 10:04:18 AM

Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in black ink, reading "Amek Carter". The signature is written in a cursive style.

Amek Carter
Project Manager
10/27/2020 10:04:18 AM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Job ID: 410-14713-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-14713-1

Receipt

The samples were received on 9/22/2020 10:56 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.0°C, 1.0°C, 1.2°C and 1.6°C

Receipt Exceptions

The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received: LM-2, MW-104, MW-525, MW-526, and MW-530. Samples were received on 9/23/20.

A trip blank was not submitted for analysis with the sample shipment and was not listed on the Chain of Custody (COC).

The following samples were submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MW-505-W-200921 (410-14713-8[MSJ]) and MW-505-W-200921 (410-14713-8[MSD])

GC/MS VOA

Method 8260D: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: LM-2-W-200921 (410-14713-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

Method 8270D_SIM: Surrogate recovery for the following sample was outside control limits: MW-526-W-200921 (410-14713-13). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

Method NWTPH_Gx: The following sample was diluted due to the nature of the sample matrix: LM-2-W-200921 (410-14713-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method NWTPH_Dx: Surrogate recovery for the following samples were outside control limits: MW-530-W-200921 (410-14713-14) and DUP-1-WD-200921 (410-14713-20). Re-extraction was performed outside of holding time with acceptable results. Results are reported from the first trial.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: LM-2-W-200921

Lab Sample ID: 410-14713-1

No Detections.

Client Sample ID: MW-ER-W-200921

Lab Sample ID: 410-14713-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1100		250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	210		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	270		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-104-W-200921

Lab Sample ID: 410-14713-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	48	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	110		100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-129R-W-200921

Lab Sample ID: 410-14713-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	36	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	61	J	100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-139R-W-200921

Lab Sample ID: 410-14713-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	360		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	500		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-502-W-200921

Lab Sample ID: 410-14713-6

No Detections.

Client Sample ID: MW-503-W-200921

Lab Sample ID: 410-14713-7

No Detections.

Client Sample ID: MW-505-W-200921

Lab Sample ID: 410-14713-8

No Detections.

Client Sample ID: MW-506-W-200921

Lab Sample ID: 410-14713-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	28	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-507-W-200921

Lab Sample ID: 410-14713-10

No Detections.

Client Sample ID: MW-509-W-200921

Lab Sample ID: 410-14713-11

No Detections.

Client Sample ID: MW-525-W-200921

Lab Sample ID: 410-14713-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.1		1.0	0.20	ug/L	1		8260D	Total/NA
C7-C12 (1C)	70	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-526-W-200921

Lab Sample ID: 410-14713-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	750		250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	75	J	120	53	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-530-W-200921

Lab Sample ID: 410-14713-14

No Detections.

Client Sample ID: MW-531-W-200921

Lab Sample ID: 410-14713-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1300		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1300		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-532-W-200921

Lab Sample ID: 410-14713-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C24-C40	110	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-533-W-200921

Lab Sample ID: 410-14713-17

No Detections.

Client Sample ID: MW-534-W-200921

Lab Sample ID: 410-14713-18

No Detections.

Client Sample ID: MW-535-W-200921

Lab Sample ID: 410-14713-19

No Detections.

Client Sample ID: DUP-1-WD-200921

Lab Sample ID: 410-14713-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	980		250	19	ug/L	1		NWTPH-Gx	Total/NA
C24-C40	140	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: LM-2-W-200921

Lab Sample ID: 410-14713-1

Date Collected: 09/21/20 14:50

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		20	4.0	ug/L			09/30/20 14:54	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					09/30/20 14:54	20
Dibromofluoromethane (Surr)	102		80 - 120					09/30/20 14:54	20
4-Bromofluorobenzene (Surr)	98		80 - 120					09/30/20 14:54	20
Toluene-d8 (Surr)	99		80 - 120					09/30/20 14:54	20

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Chrysene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		09/26/20 08:30	09/30/20 12:52	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/30/20 12:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	73		10 - 138				09/26/20 08:30	09/30/20 12:52	1
1-Methylnaphthalene-d10 (Surr)	71		15 - 121				09/26/20 08:30	09/30/20 12:52	1
Fluoranthene-d10 (Surr)	108		34 - 125				09/26/20 08:30	09/30/20 12:52	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		2500	190	ug/L			09/30/20 07:10	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					09/30/20 07:10	10

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		09/25/20 09:30	09/30/20 23:06	1
C24-C40	ND		280	110	ug/L		09/25/20 09:30	09/30/20 23:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/25/20 09:30	09/30/20 23:06	1
o-terphenyl (Surr)	57		50 - 150				09/25/20 09:30	09/30/20 23:06	1

Client Sample ID: MW-ER-W-200921

Lab Sample ID: 410-14713-2

Date Collected: 09/21/20 12:15

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					09/30/20 15:16	1
Dibromofluoromethane (Surr)	100		80 - 120					09/30/20 15:16	1
4-Bromofluorobenzene (Surr)	99		80 - 120					09/30/20 15:16	1
Toluene-d8 (Surr)	98		80 - 120					09/30/20 15:16	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-ER-W-200921

Lab Sample ID: 410-14713-2

Date Collected: 09/21/20 12:15

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1
Chrysene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		09/26/20 08:30	09/28/20 12:04	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 12:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	87		10 - 138	09/26/20 08:30	09/28/20 12:04	1
1-Methylnaphthalene-d10 (Surr)	109		15 - 121	09/26/20 08:30	09/28/20 12:04	1
Fluoranthene-d10 (Surr)	63		34 - 125	09/26/20 08:30	09/28/20 12:04	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1100		250	19	ug/L			09/28/20 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		09/28/20 14:49	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	210		110	48	ug/L		09/25/20 09:30	09/30/20 23:51	1
C24-C40	270		270	110	ug/L		09/25/20 09:30	09/30/20 23:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.4		0 - 1	09/25/20 09:30	09/30/20 23:51	1
o-terphenyl (Surr)	91		50 - 150	09/25/20 09:30	09/30/20 23:51	1

Client Sample ID: MW-104-W-200921

Lab Sample ID: 410-14713-3

Date Collected: 09/21/20 13:00

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/30/20 15:38	1
Dibromofluoromethane (Surr)	100		80 - 120		09/30/20 15:38	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/30/20 15:38	1
Toluene-d8 (Surr)	101		80 - 120		09/30/20 15:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1
Chrysene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1
Dibenz(a,h)anthracene	ND		0.080	0.023	ug/L		09/26/20 08:30	09/28/20 12:33	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		09/26/20 08:30	09/28/20 12:33	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-104-W-200921

Lab Sample ID: 410-14713-3

Date Collected: 09/21/20 13:00

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	18		10 - 138	09/26/20 08:30	09/28/20 12:33	1
1-Methylnaphthalene-d10 (Surr)	57		15 - 121	09/26/20 08:30	09/28/20 12:33	1
Fluoranthene-d10 (Surr)	61		34 - 125	09/26/20 08:30	09/28/20 12:33	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	48	J	250	19	ug/L			09/28/20 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150		09/28/20 15:15	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	110		100	47	ug/L		09/25/20 09:30	10/01/20 00:36	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 00:36	1
o-terphenyl (Surr)	84		50 - 150	09/25/20 09:30	10/01/20 00:36	1

Client Sample ID: MW-129R-W-200921

Lab Sample ID: 410-14713-4

Date Collected: 09/21/20 11:05

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 16:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/30/20 16:00	1
Dibromofluoromethane (Surr)	101		80 - 120		09/30/20 16:00	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 16:00	1
Toluene-d8 (Surr)	98		80 - 120		09/30/20 16:00	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/26/20 08:30	09/28/20 13:01	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	76		10 - 138	09/26/20 08:30	09/28/20 13:01	1
1-Methylnaphthalene-d10 (Surr)	79		15 - 121	09/26/20 08:30	09/28/20 13:01	1
Fluoranthene-d10 (Surr)	95		34 - 125	09/26/20 08:30	09/28/20 13:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	36	J	250	19	ug/L			09/28/20 15:41	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-129R-W-200921

Lab Sample ID: 410-14713-4

Date Collected: 09/21/20 11:05

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	88		50 - 150		09/28/20 15:41	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	61	J	100	47	ug/L		09/25/20 09:30	10/01/20 00:59	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/25/20 09:30	10/01/20 00:59	1
<i>o-terphenyl (Surr)</i>	64		50 - 150	09/25/20 09:30	10/01/20 00:59	1

Client Sample ID: MW-139R-W-200921

Lab Sample ID: 410-14713-5

Date Collected: 09/21/20 10:27

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		80 - 120		09/30/20 16:22	1
<i>Dibromofluoromethane (Surr)</i>	100		80 - 120		09/30/20 16:22	1
<i>4-Bromofluorobenzene (Surr)</i>	97		80 - 120		09/30/20 16:22	1
<i>Toluene-d8 (Surr)</i>	99		80 - 120		09/30/20 16:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/26/20 08:30	09/28/20 13:29	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	70		10 - 138	09/26/20 08:30	09/28/20 13:29	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	74		15 - 121	09/26/20 08:30	09/28/20 13:29	1
<i>Fluoranthene-d10 (Surr)</i>	90		34 - 125	09/26/20 08:30	09/28/20 13:29	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	86		50 - 150		09/28/20 16:07	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	360		110	48	ug/L		09/25/20 09:30	10/01/20 01:22	1
C24-C40	500		270	110	ug/L		09/25/20 09:30	10/01/20 01:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-139R-W-200921

Lab Sample ID: 410-14713-5

Date Collected: 09/21/20 10:27

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.4		0 - 1	09/25/20 09:30	10/01/20 01:22	1
<i>o</i> -terphenyl (Surr)	74		50 - 150	09/25/20 09:30	10/01/20 01:22	1

Client Sample ID: MW-502-W-200921

Lab Sample ID: 410-14713-6

Date Collected: 09/21/20 13:55

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/30/20 16:44	1
Dibromofluoromethane (Surr)	100		80 - 120		09/30/20 16:44	1
4-Bromofluorobenzene (Surr)	96		80 - 120		09/30/20 16:44	1
Toluene-d8 (Surr)	99		80 - 120		09/30/20 16:44	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/26/20 08:30	09/28/20 13:57	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/28/20 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	68		10 - 138	09/26/20 08:30	09/28/20 13:57	1
1-Methylnaphthalene-d10 (Surr)	89		15 - 121	09/26/20 08:30	09/28/20 13:57	1
Fluoranthene-d10 (Surr)	97		34 - 125	09/26/20 08:30	09/28/20 13:57	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	86		50 - 150		09/28/20 16:33	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/25/20 09:30	10/01/20 01:44	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 01:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 01:44	1
<i>o</i> -terphenyl (Surr)	73		50 - 150	09/25/20 09:30	10/01/20 01:44	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-503-W-200921

Lab Sample ID: 410-14713-7

Date Collected: 09/21/20 15:15

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 02:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					10/01/20 02:37	1
Dibromofluoromethane (Surr)	99		80 - 120					10/01/20 02:37	1
4-Bromofluorobenzene (Surr)	98		80 - 120					10/01/20 02:37	1
Toluene-d8 (Surr)	100		80 - 120					10/01/20 02:37	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Chrysene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		09/26/20 08:30	09/28/20 14:25	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	80		10 - 138				09/26/20 08:30	09/28/20 14:25	1
1-Methylnaphthalene-d10 (Surr)	79		15 - 121				09/26/20 08:30	09/28/20 14:25	1
Fluoranthene-d10 (Surr)	92		34 - 125				09/26/20 08:30	09/28/20 14:25	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 16:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					09/28/20 16:59	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		09/25/20 09:30	10/01/20 02:07	1
C24-C40	ND		270	110	ug/L		09/25/20 09:30	10/01/20 02:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/25/20 09:30	10/01/20 02:07	1
o-terphenyl (Surr)	85		50 - 150				09/25/20 09:30	10/01/20 02:07	1

Client Sample ID: MW-505-W-200921

Lab Sample ID: 410-14713-8

Date Collected: 09/21/20 13:08

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 00:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					10/01/20 00:21	1
Dibromofluoromethane (Surr)	100		80 - 120					10/01/20 00:21	1
4-Bromofluorobenzene (Surr)	96		80 - 120					10/01/20 00:21	1
Toluene-d8 (Surr)	99		80 - 120					10/01/20 00:21	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-505-W-200921

Lab Sample ID: 410-14713-8

Date Collected: 09/21/20 13:08

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1
Benzo[a]pyrene	ND	F1	0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1
Benzo[b]fluoranthene	ND	F1	0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1
Benzo[k]fluoranthene	ND	F2 F1	0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1
Chrysene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1
Dibenz(a,h)anthracene	ND	F2 F1	0.071	0.020	ug/L		09/26/20 08:30	09/28/20 10:11	1
Indeno[1,2,3-cd]pyrene	ND	F2 F1	0.050	0.010	ug/L		09/26/20 08:30	09/28/20 10:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	10		10 - 138	09/26/20 08:30	09/28/20 10:11	1
1-Methylnaphthalene-d10 (Surr)	82		15 - 121	09/26/20 08:30	09/28/20 10:11	1
Fluoranthene-d10 (Surr)	94		34 - 125	09/26/20 08:30	09/28/20 10:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/28/20 18:16	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	F2	100	46	ug/L		09/25/20 09:30	10/01/20 02:52	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 02:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 02:52	1
o-terphenyl (Surr)	83		50 - 150	09/25/20 09:30	10/01/20 02:52	1

Client Sample ID: MW-506-W-200921

Lab Sample ID: 410-14713-9

Date Collected: 09/21/20 13:51

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 02:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		10/01/20 02:59	1
Dibromofluoromethane (Surr)	99		80 - 120		10/01/20 02:59	1
4-Bromofluorobenzene (Surr)	98		80 - 120		10/01/20 02:59	1
Toluene-d8 (Surr)	99		80 - 120		10/01/20 02:59	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1
Chrysene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		09/26/20 08:30	09/28/20 14:53	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 14:53	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-506-W-200921

Lab Sample ID: 410-14713-9

Date Collected: 09/21/20 13:51

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	69		10 - 138	09/26/20 08:30	09/28/20 14:53	1
1-Methylnaphthalene-d10 (Surr)	82		15 - 121	09/26/20 08:30	09/28/20 14:53	1
Fluoranthene-d10 (Surr)	99		34 - 125	09/26/20 08:30	09/28/20 14:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	28	J	250	19	ug/L			09/28/20 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		09/28/20 17:24	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		09/25/20 09:30	10/01/20 04:00	1
C24-C40	ND		260	110	ug/L		09/25/20 09:30	10/01/20 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 04:00	1
o-terphenyl (Surr)	85		50 - 150	09/25/20 09:30	10/01/20 04:00	1

Client Sample ID: MW-507-W-200921

Lab Sample ID: 410-14713-10

Date Collected: 09/21/20 12:36

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/01/20 03:21	1
Dibromofluoromethane (Surr)	100		80 - 120		10/01/20 03:21	1
4-Bromofluorobenzene (Surr)	97		80 - 120		10/01/20 03:21	1
Toluene-d8 (Surr)	99		80 - 120		10/01/20 03:21	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1
Chrysene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		09/26/20 08:30	09/28/20 15:21	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/28/20 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	84		10 - 138	09/26/20 08:30	09/28/20 15:21	1
1-Methylnaphthalene-d10 (Surr)	81		15 - 121	09/26/20 08:30	09/28/20 15:21	1
Fluoranthene-d10 (Surr)	95		34 - 125	09/26/20 08:30	09/28/20 15:21	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 17:50	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-507-W-200921

Lab Sample ID: 410-14713-10

Date Collected: 09/21/20 12:36

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (<i>fid</i>) (1C)	85		50 - 150		09/28/20 17:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/25/20 09:30	10/01/20 04:23	1
C24-C40	ND		270	110	ug/L		09/25/20 09:30	10/01/20 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (<i>Surr</i>)	0.3		0 - 1	09/25/20 09:30	10/01/20 04:23	1
<i>o</i> -terphenyl (<i>Surr</i>)	75		50 - 150	09/25/20 09:30	10/01/20 04:23	1

Client Sample ID: MW-509-W-200921

Lab Sample ID: 410-14713-11

Date Collected: 09/21/20 11:29

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane- <i>d</i> 4 (<i>Surr</i>)	102		80 - 120		10/01/20 03:43	1
Dibromofluoromethane (<i>Surr</i>)	100		80 - 120		10/01/20 03:43	1
4-Bromofluorobenzene (<i>Surr</i>)	96		80 - 120		10/01/20 03:43	1
Toluene- <i>d</i> 8 (<i>Surr</i>)	99		80 - 120		10/01/20 03:43	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1
Chrysene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		09/26/20 08:30	09/28/20 15:50	1
Indeno[1,2,3- <i>cd</i>]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/28/20 15:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene- <i>d</i> 12 (<i>Surr</i>)	30		10 - 138	09/26/20 08:30	09/28/20 15:50	1
1-Methylnaphthalene- <i>d</i> 10 (<i>Surr</i>)	66		15 - 121	09/26/20 08:30	09/28/20 15:50	1
Fluoranthene- <i>d</i> 10 (<i>Surr</i>)	80		34 - 125	09/26/20 08:30	09/28/20 15:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (<i>fid</i>) (1C)	86		50 - 150		09/28/20 20:00	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/25/20 09:30	10/01/20 04:46	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 04:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-509-W-200921

Lab Sample ID: 410-14713-11

Date Collected: 09/21/20 11:29

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/25/20 09:30	10/01/20 04:46	1
<i>o-terphenyl (Surr)</i>	62		50 - 150	09/25/20 09:30	10/01/20 04:46	1

Client Sample ID: MW-525-W-200921

Lab Sample ID: 410-14713-12

Date Collected: 09/21/20 09:40

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.1		1.0	0.20	ug/L			10/01/20 04:05	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		80 - 120		10/01/20 04:05	1			
<i>Dibromofluoromethane (Surr)</i>	99		80 - 120		10/01/20 04:05	1			
<i>4-Bromofluorobenzene (Surr)</i>	97		80 - 120		10/01/20 04:05	1			
<i>Toluene-d8 (Surr)</i>	100		80 - 120		10/01/20 04:05	1			

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Chrysene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		09/26/20 08:30	09/29/20 18:18	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:18	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>Benzo(a)pyrene-d12 (Surr)</i>	62		10 - 138		09/29/20 18:18	1			
<i>1-Methylnaphthalene-d10 (Surr)</i>	74		15 - 121		09/29/20 18:18	1			
<i>Fluoranthene-d10 (Surr)</i>	112		34 - 125		09/29/20 18:18	1			

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	70	J	250	19	ug/L			09/28/20 20:26	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150		09/28/20 20:26	1			

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		09/25/20 09:30	10/01/20 05:08	1
C24-C40	ND		280	110	ug/L		09/25/20 09:30	10/01/20 05:08	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1		10/01/20 05:08	1			
<i>o-terphenyl (Surr)</i>	71		50 - 150		10/01/20 05:08	1			

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-526-W-200921

Lab Sample ID: 410-14713-13

Date Collected: 09/21/20 11:20

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 04:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					10/01/20 04:27	1
Dibromofluoromethane (Surr)	99		80 - 120					10/01/20 04:27	1
4-Bromofluorobenzene (Surr)	101		80 - 120					10/01/20 04:27	1
Toluene-d8 (Surr)	99		80 - 120					10/01/20 04:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Chrysene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		09/26/20 08:30	09/29/20 18:47	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		09/26/20 08:30	09/29/20 18:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	46		10 - 138				09/26/20 08:30	09/29/20 18:47	1
1-Methylnaphthalene-d10 (Surr)	11	X	15 - 121				09/26/20 08:30	09/29/20 18:47	1
Fluoranthene-d10 (Surr)	45		34 - 125				09/26/20 08:30	09/29/20 18:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	750		250	19	ug/L			09/28/20 20:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150					09/28/20 20:51	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	75	J	120	53	ug/L		09/25/20 09:30	10/01/20 05:31	1
C24-C40	ND		290	120	ug/L		09/25/20 09:30	10/01/20 05:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/25/20 09:30	10/01/20 05:31	1
o-terphenyl (Surr)	58		50 - 150				09/25/20 09:30	10/01/20 05:31	1

Client Sample ID: MW-530-W-200921

Lab Sample ID: 410-14713-14

Date Collected: 09/21/20 14:52

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 04:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					10/01/20 04:49	1
Dibromofluoromethane (Surr)	100		80 - 120					10/01/20 04:49	1
4-Bromofluorobenzene (Surr)	100		80 - 120					10/01/20 04:49	1
Toluene-d8 (Surr)	99		80 - 120					10/01/20 04:49	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-530-W-200921

Lab Sample ID: 410-14713-14

Date Collected: 09/21/20 14:52

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/26/20 08:30	09/29/20 19:15	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	56		10 - 138	09/26/20 08:30	09/29/20 19:15	1
1-Methylnaphthalene-d10 (Surr)	88		15 - 121	09/26/20 08:30	09/29/20 19:15	1
Fluoranthene-d10 (Surr)	116		34 - 125	09/26/20 08:30	09/29/20 19:15	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 06:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/30/20 06:45	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		09/25/20 09:30	10/01/20 05:54	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 05:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 05:54	1
o-terphenyl (Surr)	38	X	50 - 150	09/25/20 09:30	10/01/20 05:54	1

Client Sample ID: MW-531-W-200921

Lab Sample ID: 410-14713-15

Date Collected: 09/21/20 09:42

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 05:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		10/01/20 05:11	1
Dibromofluoromethane (Surr)	100		80 - 120		10/01/20 05:11	1
4-Bromofluorobenzene (Surr)	98		80 - 120		10/01/20 05:11	1
Toluene-d8 (Surr)	99		80 - 120		10/01/20 05:11	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/26/20 08:30	09/29/20 19:43	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/29/20 19:43	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-531-W-200921

Lab Sample ID: 410-14713-15

Date Collected: 09/21/20 09:42

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	44		10 - 138	09/26/20 08:30	09/29/20 19:43	1
1-Methylnaphthalene-d10 (Surr)	86		15 - 121	09/26/20 08:30	09/29/20 19:43	1
Fluoranthene-d10 (Surr)	109		34 - 125	09/26/20 08:30	09/29/20 19:43	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		09/28/20 21:43	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1300		100	45	ug/L		09/25/20 09:30	10/01/20 08:56	1
C24-C40	1300		250	100	ug/L		09/25/20 09:30	10/01/20 08:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.4		0 - 1	09/25/20 09:30	10/01/20 08:56	1
o-terphenyl (Surr)	70		50 - 150	09/25/20 09:30	10/01/20 08:56	1

Client Sample ID: MW-532-W-200921

Lab Sample ID: 410-14713-16

Date Collected: 09/21/20 09:35

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 05:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		10/01/20 05:33	1
Dibromofluoromethane (Surr)	100		80 - 120		10/01/20 05:33	1
4-Bromofluorobenzene (Surr)	96		80 - 120		10/01/20 05:33	1
Toluene-d8 (Surr)	99		80 - 120		10/01/20 05:33	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1
Chrysene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		09/26/20 08:30	09/29/20 20:12	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/26/20 08:30	09/29/20 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	85		10 - 138	09/26/20 08:30	09/29/20 20:12	1
1-Methylnaphthalene-d10 (Surr)	86		15 - 121	09/26/20 08:30	09/29/20 20:12	1
Fluoranthene-d10 (Surr)	107		34 - 125	09/26/20 08:30	09/29/20 20:12	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 22:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-532-W-200921

Lab Sample ID: 410-14713-16

Date Collected: 09/21/20 09:35

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (<i>fid</i>) (1C)	86		50 - 150		09/28/20 22:09	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/25/20 09:30	10/01/20 06:17	1
C24-C40	110	J	260	100	ug/L		09/25/20 09:30	10/01/20 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (<i>Surr</i>)	0.3		0 - 1	09/25/20 09:30	10/01/20 06:17	1
<i>o</i> -terphenyl (<i>Surr</i>)	72		50 - 150	09/25/20 09:30	10/01/20 06:17	1

Client Sample ID: MW-533-W-200921

Lab Sample ID: 410-14713-17

Date Collected: 09/21/20 10:42

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 05:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2</i> -Dichloroethane- <i>d4</i> (<i>Surr</i>)	103		80 - 120		10/01/20 05:55	1
Dibromofluoromethane (<i>Surr</i>)	100		80 - 120		10/01/20 05:55	1
<i>4</i> -Bromofluorobenzene (<i>Surr</i>)	97		80 - 120		10/01/20 05:55	1
Toluene- <i>d8</i> (<i>Surr</i>)	99		80 - 120		10/01/20 05:55	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[<i>a</i>]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1
Benzo[<i>a</i>]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1
Benzo[<i>b</i>]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1
Benzo[<i>k</i>]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1
Dibenz(<i>a,h</i>)anthracene	ND		0.072	0.021	ug/L		09/26/20 08:30	09/30/20 12:23	1
Indeno[<i>1,2,3-cd</i>]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 12:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(<i>a</i>)pyrene- <i>d12</i> (<i>Surr</i>)	72		10 - 138	09/26/20 08:30	09/30/20 12:23	1
<i>1</i> -Methylnaphthalene- <i>d10</i> (<i>Surr</i>)	85		15 - 121	09/26/20 08:30	09/30/20 12:23	1
Fluoranthene- <i>d10</i> (<i>Surr</i>)	103		34 - 125	09/26/20 08:30	09/30/20 12:23	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (<i>fid</i>) (1C)	86		50 - 150		09/28/20 22:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		09/25/20 09:30	10/01/20 07:25	1
C24-C40	ND		260	100	ug/L		09/25/20 09:30	10/01/20 07:25	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-533-W-200921

Lab Sample ID: 410-14713-17

Date Collected: 09/21/20 10:42

Matrix: Water

Date Received: 09/22/20 10:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/25/20 09:30	10/01/20 07:25	1
<i>o- terphenyl (Surr)</i>	66		50 - 150	09/25/20 09:30	10/01/20 07:25	1

Client Sample ID: MW-534-W-200921

Lab Sample ID: 410-14713-18

Date Collected: 09/21/20 11:42

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	103		80 - 120		10/01/20 06:17	1
<i>Dibromofluoromethane (Surr)</i>	101		80 - 120		10/01/20 06:17	1
<i>4-Bromofluorobenzene (Surr)</i>	96		80 - 120		10/01/20 06:17	1
<i>Toluene-d8 (Surr)</i>	99		80 - 120		10/01/20 06:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1
Chrysene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1
Dibenz(a,h)anthracene	ND		0.072	0.020	ug/L		09/26/20 08:30	09/29/20 21:09	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/26/20 08:30	09/29/20 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	28		10 - 138	09/26/20 08:30	09/29/20 21:09	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	84		15 - 121	09/26/20 08:30	09/29/20 21:09	1
<i>Fluoranthene-d10 (Surr)</i>	112		34 - 125	09/26/20 08:30	09/29/20 21:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150		09/28/20 23:00	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		09/25/20 09:30	10/01/20 07:47	1
C24-C40	ND		260	110	ug/L		09/25/20 09:30	10/01/20 07:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/25/20 09:30	10/01/20 07:47	1
<i>o- terphenyl (Surr)</i>	66		50 - 150	09/25/20 09:30	10/01/20 07:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-535-W-200921

Lab Sample ID: 410-14713-19

Date Collected: 09/21/20 14:18

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 06:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					10/01/20 06:38	1
Dibromofluoromethane (Surr)	101		80 - 120					10/01/20 06:38	1
4-Bromofluorobenzene (Surr)	96		80 - 120					10/01/20 06:38	1
Toluene-d8 (Surr)	99		80 - 120					10/01/20 06:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Chrysene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Dibenz(a,h)anthracene	ND		0.076	0.022	ug/L		09/26/20 08:30	09/29/20 21:37	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		09/26/20 08:30	09/29/20 21:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	77		10 - 138				09/26/20 08:30	09/29/20 21:37	1
1-Methylnaphthalene-d10 (Surr)	89		15 - 121				09/26/20 08:30	09/29/20 21:37	1
Fluoranthene-d10 (Surr)	104		34 - 125				09/26/20 08:30	09/29/20 21:37	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 23:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					09/28/20 23:26	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/25/20 09:30	10/01/20 08:10	1
C24-C40	ND		270	110	ug/L		09/25/20 09:30	10/01/20 08:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/25/20 09:30	10/01/20 08:10	1
o-terphenyl (Surr)	82		50 - 150				09/25/20 09:30	10/01/20 08:10	1

Client Sample ID: DUP-1-WD-200921

Lab Sample ID: 410-14713-20

Date Collected: 09/21/20 00:00

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/01/20 07:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					10/01/20 07:00	1
Dibromofluoromethane (Surr)	100		80 - 120					10/01/20 07:00	1
4-Bromofluorobenzene (Surr)	99		80 - 120					10/01/20 07:00	1
Toluene-d8 (Surr)	98		80 - 120					10/01/20 07:00	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: DUP-1-WD-200921

Lab Sample ID: 410-14713-20

Date Collected: 09/21/20 00:00

Matrix: Water

Date Received: 09/22/20 10:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1
Chrysene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		09/26/20 08:30	09/30/20 11:55	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/26/20 08:30	09/30/20 11:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	85		10 - 138	09/26/20 08:30	09/30/20 11:55	1
1-Methylnaphthalene-d10 (Surr)	74		15 - 121	09/26/20 08:30	09/30/20 11:55	1
Fluoranthene-d10 (Surr)	65		34 - 125	09/26/20 08:30	09/30/20 11:55	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	980		250	19	ug/L			09/28/20 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/28/20 23:52	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/25/20 09:30	10/01/20 08:33	1
C24-C40	140	J	260	100	ug/L		09/25/20 09:30	10/01/20 08:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/25/20 09:30	10/01/20 08:33	1
o-terphenyl (Surr)	15	X	50 - 150	09/25/20 09:30	10/01/20 08:33	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-14713-1	LM-2-W-200921	102	102	98	99
410-14713-2	MW-ER-W-200921	101	100	99	98
410-14713-3	MW-104-W-200921	101	100	98	101
410-14713-4	MW-129R-W-200921	102	101	97	98
410-14713-5	MW-139R-W-200921	101	100	97	99
410-14713-6	MW-502-W-200921	103	100	96	99
410-14713-7	MW-503-W-200921	102	99	98	100
410-14713-8	MW-505-W-200921	102	100	96	99
410-14713-8 MS	MW-505-W-200921	102	100	99	100
410-14713-8 MSD	MW-505-W-200921	100	100	99	100
410-14713-9	MW-506-W-200921	101	99	98	99
410-14713-10	MW-507-W-200921	103	100	97	99
410-14713-11	MW-509-W-200921	102	100	96	99
410-14713-12	MW-525-W-200921	101	99	97	100
410-14713-13	MW-526-W-200921	101	99	101	99
410-14713-14	MW-530-W-200921	101	100	100	99
410-14713-15	MW-531-W-200921	102	100	98	99
410-14713-16	MW-532-W-200921	102	100	96	99
410-14713-17	MW-533-W-200921	103	100	97	99
410-14713-18	MW-534-W-200921	103	101	96	99
410-14713-19	MW-535-W-200921	103	101	96	99
410-14713-20	DUP-1-WD-200921	102	100	99	98
LCS 410-49248/4	Lab Control Sample	102	101	100	101
LCS 410-49553/4	Lab Control Sample	101	100	99	100
LCSD 410-49248/5	Lab Control Sample Dup	101	100	100	101
LCSD 410-49553/5	Lab Control Sample Dup	101	100	100	101
MB 410-49248/7	Method Blank	102	101	97	99
MB 410-49553/8	Method Blank	102	100	97	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-14713-1	LM-2-W-200921	73	71	108
410-14713-2	MW-ER-W-200921	87	109	63
410-14713-3	MW-104-W-200921	18	57	61
410-14713-4	MW-129R-W-200921	76	79	95
410-14713-5	MW-139R-W-200921	70	74	90
410-14713-6	MW-502-W-200921	68	89	97
410-14713-7	MW-503-W-200921	80	79	92
410-14713-8	MW-505-W-200921	10	82	94
410-14713-8 MS	MW-505-W-200921	18	94	98

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-14713-8 MSD	MW-505-W-200921	16	90	94
410-14713-9	MW-506-W-200921	69	82	99
410-14713-10	MW-507-W-200921	84	81	95
410-14713-11	MW-509-W-200921	30	66	80
410-14713-12	MW-525-W-200921	62	74	112
410-14713-13	MW-526-W-200921	46	11 X	45
410-14713-14	MW-530-W-200921	56	88	116
410-14713-15	MW-531-W-200921	44	86	109
410-14713-16	MW-532-W-200921	85	86	107
410-14713-17	MW-533-W-200921	72	85	103
410-14713-18	MW-534-W-200921	28	84	112
410-14713-19	MW-535-W-200921	77	89	104
410-14713-20	DUP-1-WD-200921	85	74	65
LCS 410-48038/2-A	Lab Control Sample	91	86	98
MB 410-48038/1-A	Method Blank	91	89	102

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
 MNPd10 = 1-Methylnaphthalene-d10 (Surr)
 FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1
		(50-150)
410-14713-1	LM-2-W-200921	86
410-14713-2	MW-ER-W-200921	85
410-14713-3	MW-104-W-200921	84
410-14713-4	MW-129R-W-200921	88
410-14713-5	MW-139R-W-200921	86
410-14713-6	MW-502-W-200921	86
410-14713-7	MW-503-W-200921	86
410-14713-8	MW-505-W-200921	86
410-14713-8 MS	MW-505-W-200921	77
410-14713-8 MSD	MW-505-W-200921	78
410-14713-9	MW-506-W-200921	87
410-14713-10	MW-507-W-200921	85
410-14713-11	MW-509-W-200921	86
410-14713-12	MW-525-W-200921	85
410-14713-13	MW-526-W-200921	87
410-14713-14	MW-530-W-200921	86
410-14713-15	MW-531-W-200921	87
410-14713-16	MW-532-W-200921	86
410-14713-17	MW-533-W-200921	86
410-14713-18	MW-534-W-200921	85
410-14713-19	MW-535-W-200921	86
410-14713-20	DUP-1-WD-200921	86
LCS 410-48391/5	Lab Control Sample	78
LCS 410-49058/5	Lab Control Sample	78

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
LCSD 410-48391/6	Lab Control Sample Dup	78
LCSD 410-49058/6	Lab Control Sample Dup	78
MB 410-48391/4	Method Blank	86
MB 410-49058/4	Method Blank	87

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-14713-1	LM-2-W-200921	0.3	57
410-14713-1 DU	LM-2-W-200921	0.3	67
410-14713-2	MW-ER-W-200921	0.4	91
410-14713-2 DU	MW-ER-W-200921	0.4	67
410-14713-3	MW-104-W-200921	0.3	84
410-14713-4	MW-129R-W-200921	0.3	64
410-14713-5	MW-139R-W-200921	0.4	74
410-14713-6	MW-502-W-200921	0.3	73
410-14713-7	MW-503-W-200921	0.3	85
410-14713-8	MW-505-W-200921	0.3	83
410-14713-8 MS	MW-505-W-200921	0.5	84
410-14713-8 MSD	MW-505-W-200921	0.5	82
410-14713-9	MW-506-W-200921	0.3	85
410-14713-10	MW-507-W-200921	0.3	75
410-14713-11	MW-509-W-200921	0.3	62
410-14713-12	MW-525-W-200921	0.3	71
410-14713-13	MW-526-W-200921	0.3	58
410-14713-14	MW-530-W-200921	0.3	38 X
410-14713-15	MW-531-W-200921	0.4	70
410-14713-16	MW-532-W-200921	0.3	72
410-14713-17	MW-533-W-200921	0.3	66
410-14713-18	MW-534-W-200921	0.3	66
410-14713-19	MW-535-W-200921	0.3	82
410-14713-20	DUP-1-WD-200921	0.3	15 X
LCS 410-47692/2-B	Lab Control Sample	0.4	66
MB 410-47692/1-B	Method Blank	0.3	69

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-49248/7
Matrix: Water
Analysis Batch: 49248

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 10:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/30/20 10:09	1
Dibromofluoromethane (Surr)	101		80 - 120		09/30/20 10:09	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 10:09	1
Toluene-d8 (Surr)	99		80 - 120		09/30/20 10:09	1

Lab Sample ID: LCS 410-49248/4
Matrix: Water
Analysis Batch: 49248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.2		ug/L		101	80 - 120
Ethylbenzene	20.0	20.7		ug/L		103	80 - 120
Toluene	20.0	20.2		ug/L		101	80 - 120
Xylenes, Total	60.0	62.5		ug/L		104	80 - 120
Methyl tertiary butyl ether	20.0	19.9		ug/L		100	69 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: LCSD 410-49248/5
Matrix: Water
Analysis Batch: 49248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.1		ug/L		100	80 - 120	0	30
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120	1	30
Toluene	20.0	20.4		ug/L		102	80 - 120	1	30
Xylenes, Total	60.0	62.7		ug/L		105	80 - 120	0	30
Methyl tertiary butyl ether	20.0	19.9		ug/L		100	69 - 122	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 410-49553/8
Matrix: Water
Analysis Batch: 49553

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 22:24	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/30/20 22:24	1
Dibromofluoromethane (Surr)	100		80 - 120		09/30/20 22:24	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 22:24	1
Toluene-d8 (Surr)	99		80 - 120		09/30/20 22:24	1

Lab Sample ID: LCS 410-49553/4
Matrix: Water
Analysis Batch: 49553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.3		ug/L		101	80 - 120
Ethylbenzene	20.0	20.9		ug/L		105	80 - 120
Toluene	20.0	20.2		ug/L		101	80 - 120
Xylenes, Total	60.0	62.8		ug/L		105	80 - 120
Methyl tertiary butyl ether	20.0	19.7		ug/L		99	69 - 122

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: LCSD 410-49553/5
Matrix: Water
Analysis Batch: 49553

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.3		ug/L		102	80 - 120	0	30
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120	0	30
Toluene	20.0	20.5		ug/L		103	80 - 120	2	30
Xylenes, Total	60.0	63.0		ug/L		105	80 - 120	0	30
Methyl tertiary butyl ether	20.0	19.9		ug/L		100	69 - 122	1	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: 410-14713-8 MS
Matrix: Water
Analysis Batch: 49553

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	21.3		ug/L		107	80 - 120
Ethylbenzene	ND		20.0	21.8		ug/L		109	80 - 120
Toluene	ND		20.0	21.4		ug/L		107	80 - 120
Xylenes, Total	ND		60.0	65.7		ug/L		110	80 - 120
Methyl tertiary butyl ether	ND		20.0	19.9		ug/L		100	69 - 122

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-14713-8 MS
Matrix: Water
Analysis Batch: 49553

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: 410-14713-8 MSD
Matrix: Water
Analysis Batch: 49553

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	21.5		ug/L		108	80 - 120	1	30
Ethylbenzene	ND		20.0	21.9		ug/L		109	80 - 120	0	30
Toluene	ND		20.0	21.4		ug/L		107	80 - 120	0	30
Xylenes, Total	ND		60.0	65.6		ug/L		109	80 - 120	0	30
Methyl tertiary butyl ether	ND		20.0	19.9		ug/L		99	69 - 122	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-48038/1-A
Matrix: Water
Analysis Batch: 48264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48038

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1
Chrysene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		09/26/20 08:30	09/28/20 09:14	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		09/26/20 08:30	09/28/20 09:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	91		10 - 138	09/26/20 08:30	09/28/20 09:14	1
1-Methylnaphthalene-d10 (Surr)	89		15 - 121	09/26/20 08:30	09/28/20 09:14	1
Fluoranthene-d10 (Surr)	102		34 - 125	09/26/20 08:30	09/28/20 09:14	1

Lab Sample ID: LCS 410-48038/2-A
Matrix: Water
Analysis Batch: 48264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.977		ug/L		98	61 - 117

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-48038/2-A
Matrix: Water
Analysis Batch: 48264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	1.00	1.02		ug/L		102	63 - 135
Benzo[b]fluoranthene	1.00	1.03		ug/L		103	66 - 138
Benzo[k]fluoranthene	1.00	0.982		ug/L		98	58 - 142
Chrysene	1.00	0.965		ug/L		96	61 - 117
Dibenz(a,h)anthracene	1.00	0.900		ug/L		90	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.935		ug/L		93	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	91		10 - 138
1-Methylnaphthalene-d10 (Surr)	86		15 - 121
Fluoranthene-d10 (Surr)	98		34 - 125

Lab Sample ID: 410-14713-8 MS
Matrix: Water
Analysis Batch: 48264

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA
Prep Batch: 48038

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	ND		1.01	0.863		ug/L		86	61 - 117
Benzo[a]pyrene	ND	F1	1.01	0.208	F1	ug/L		21	63 - 135
Benzo[b]fluoranthene	ND	F1	1.01	0.690		ug/L		68	66 - 138
Benzo[k]fluoranthene	ND	F2 F1	1.01	0.513	F1	ug/L		51	58 - 142
Chrysene	ND		1.01	0.899		ug/L		89	61 - 117
Dibenz(a,h)anthracene	ND	F2 F1	1.01	0.321	F1	ug/L		32	51 - 139
Indeno[1,2,3-cd]pyrene	ND	F2 F1	1.01	0.191	F1	ug/L		19	56 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	18		10 - 138
1-Methylnaphthalene-d10 (Surr)	94		15 - 121
Fluoranthene-d10 (Surr)	98		34 - 125

Lab Sample ID: 410-14713-8 MSD
Matrix: Water
Analysis Batch: 48264

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA
Prep Batch: 48038

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	ND		1.06	0.815		ug/L		77	61 - 117	6	30
Benzo[a]pyrene	ND	F1	1.06	0.191	F1	ug/L		18	63 - 135	9	30
Benzo[b]fluoranthene	ND	F1	1.06	0.640	F1	ug/L		60	66 - 138	8	30
Benzo[k]fluoranthene	ND	F2 F1	1.06	0.368	F2 F1	ug/L		35	58 - 142	33	30
Chrysene	ND		1.06	0.889		ug/L		84	61 - 117	1	30
Dibenz(a,h)anthracene	ND	F2 F1	1.06	0.200	F2 F1	ug/L		19	51 - 139	46	30
Indeno[1,2,3-cd]pyrene	ND	F2 F1	1.06	0.122	F2 F1	ug/L		12	56 - 147	44	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	16		10 - 138
1-Methylnaphthalene-d10 (Surr)	90		15 - 121
Fluoranthene-d10 (Surr)	94		34 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-48391/4
Matrix: Water
Analysis Batch: 48391

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/28/20 13:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					09/28/20 13:10	1

Lab Sample ID: LCS 410-48391/5
Matrix: Water
Analysis Batch: 48391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1040		ug/L		94	64 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150				

Lab Sample ID: LCSD 410-48391/6
Matrix: Water
Analysis Batch: 48391

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1040		ug/L		94	64 - 131	0	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150						

Lab Sample ID: 410-14713-8 MS
Matrix: Water
Analysis Batch: 48391

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	ND		1120	1250		ug/L		112	80 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150						

Lab Sample ID: 410-14713-8 MSD
Matrix: Water
Analysis Batch: 48391

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1240		ug/L		111	80 - 120	1	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-49058/4
Matrix: Water
Analysis Batch: 49058

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/29/20 21:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150					09/29/20 21:43	1

Lab Sample ID: LCS 410-49058/5
Matrix: Water
Analysis Batch: 49058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1050		ug/L		96	64 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150				

Lab Sample ID: LCSD 410-49058/6
Matrix: Water
Analysis Batch: 49058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1010		ug/L		92	64 - 131	4	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150						

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-47692/1-B
Matrix: Water
Analysis Batch: 49608

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		09/25/20 09:30	09/30/20 22:20	1
C24-C40	ND		250	100	ug/L		09/25/20 09:30	09/30/20 22:20	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/25/20 09:30	09/30/20 22:20	1
o-terphenyl (Surr)	69		50 - 150				09/25/20 09:30	09/30/20 22:20	1

Lab Sample ID: LCS 410-47692/2-B
Matrix: Water
Analysis Batch: 49608

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	262		ug/L		44	10 - 115

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-47692/2-B
Matrix: Water
Analysis Batch: 49608

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47692

Surrogate	LCS		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	66		50 - 150

Lab Sample ID: 410-14713-8 MS
Matrix: Water
Analysis Batch: 49608

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
C12-C24	ND	F2	615	293		ug/L		48		30 - 115
Surrogate	MS		Limits							
	%Recovery	Qualifier								
<i>n-Decanoic Acid (Surr)</i>	0.5		0 - 1							
<i>o-terphenyl (Surr)</i>	84		50 - 150							

Lab Sample ID: 410-14713-8 MSD
Matrix: Water
Analysis Batch: 49608

Client Sample ID: MW-505-W-200921
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						RPD	
C12-C24	ND	F2	628	392	F2	ug/L		62		30 - 115	29	20
Surrogate	MSD		Limits									
	%Recovery	Qualifier										
<i>n-Decanoic Acid (Surr)</i>	0.5		0 - 1									
<i>o-terphenyl (Surr)</i>	82		50 - 150									

Lab Sample ID: 410-14713-1 DU
Matrix: Water
Analysis Batch: 49608

Client Sample ID: LM-2-W-200921
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20
Surrogate	DU		Limits					
	%Recovery	Qualifier						
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1					
<i>o-terphenyl (Surr)</i>	67		50 - 150					

Lab Sample ID: 410-14713-2 DU
Matrix: Water
Analysis Batch: 49608

Client Sample ID: MW-ER-W-200921
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
C12-C24	210		141	F5	ug/L		37	20
C24-C40	270		ND		ug/L		NC	20
Surrogate	DU		Limits					
	%Recovery	Qualifier						
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1					

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-14713-2 DU
Matrix: Water
Analysis Batch: 49608

Client Sample ID: MW-ER-W-200921
Prep Type: Total/NA
Prep Batch: 47692

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU</i> <i>Qualifier</i>	<i>Limits</i>
<i>o-terphenyl (Surr)</i>	67		50 - 150

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

GC/MS VOA

Analysis Batch: 49248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	8260D	
410-14713-2	MW-ER-W-200921	Total/NA	Water	8260D	
410-14713-3	MW-104-W-200921	Total/NA	Water	8260D	
410-14713-4	MW-129R-W-200921	Total/NA	Water	8260D	
410-14713-5	MW-139R-W-200921	Total/NA	Water	8260D	
410-14713-6	MW-502-W-200921	Total/NA	Water	8260D	
MB 410-49248/7	Method Blank	Total/NA	Water	8260D	
LCS 410-49248/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-49248/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 49553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-7	MW-503-W-200921	Total/NA	Water	8260D	
410-14713-8	MW-505-W-200921	Total/NA	Water	8260D	
410-14713-9	MW-506-W-200921	Total/NA	Water	8260D	
410-14713-10	MW-507-W-200921	Total/NA	Water	8260D	
410-14713-11	MW-509-W-200921	Total/NA	Water	8260D	
410-14713-12	MW-525-W-200921	Total/NA	Water	8260D	
410-14713-13	MW-526-W-200921	Total/NA	Water	8260D	
410-14713-14	MW-530-W-200921	Total/NA	Water	8260D	
410-14713-15	MW-531-W-200921	Total/NA	Water	8260D	
410-14713-16	MW-532-W-200921	Total/NA	Water	8260D	
410-14713-17	MW-533-W-200921	Total/NA	Water	8260D	
410-14713-18	MW-534-W-200921	Total/NA	Water	8260D	
410-14713-19	MW-535-W-200921	Total/NA	Water	8260D	
410-14713-20	DUP-1-WD-200921	Total/NA	Water	8260D	
MB 410-49553/8	Method Blank	Total/NA	Water	8260D	
LCS 410-49553/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-49553/5	Lab Control Sample Dup	Total/NA	Water	8260D	
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	8260D	
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 48038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	3510C	
410-14713-2	MW-ER-W-200921	Total/NA	Water	3510C	
410-14713-3	MW-104-W-200921	Total/NA	Water	3510C	
410-14713-4	MW-129R-W-200921	Total/NA	Water	3510C	
410-14713-5	MW-139R-W-200921	Total/NA	Water	3510C	
410-14713-6	MW-502-W-200921	Total/NA	Water	3510C	
410-14713-7	MW-503-W-200921	Total/NA	Water	3510C	
410-14713-8	MW-505-W-200921	Total/NA	Water	3510C	
410-14713-9	MW-506-W-200921	Total/NA	Water	3510C	
410-14713-10	MW-507-W-200921	Total/NA	Water	3510C	
410-14713-11	MW-509-W-200921	Total/NA	Water	3510C	
410-14713-12	MW-525-W-200921	Total/NA	Water	3510C	
410-14713-13	MW-526-W-200921	Total/NA	Water	3510C	
410-14713-14	MW-530-W-200921	Total/NA	Water	3510C	
410-14713-15	MW-531-W-200921	Total/NA	Water	3510C	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

GC/MS Semi VOA (Continued)

Prep Batch: 48038 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-16	MW-532-W-200921	Total/NA	Water	3510C	
410-14713-17	MW-533-W-200921	Total/NA	Water	3510C	
410-14713-18	MW-534-W-200921	Total/NA	Water	3510C	
410-14713-19	MW-535-W-200921	Total/NA	Water	3510C	
410-14713-20	DUP-1-WD-200921	Total/NA	Water	3510C	
MB 410-48038/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-48038/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	3510C	
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	3510C	

Analysis Batch: 48264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-2	MW-ER-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-3	MW-104-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-4	MW-129R-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-5	MW-139R-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-6	MW-502-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-7	MW-503-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-8	MW-505-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-9	MW-506-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-10	MW-507-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-11	MW-509-W-200921	Total/NA	Water	8270D SIM	48038
MB 410-48038/1-A	Method Blank	Total/NA	Water	8270D SIM	48038
LCS 410-48038/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	48038
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	8270D SIM	48038

Analysis Batch: 48711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-12	MW-525-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-13	MW-526-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-14	MW-530-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-15	MW-531-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-16	MW-532-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-18	MW-534-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-19	MW-535-W-200921	Total/NA	Water	8270D SIM	48038

Analysis Batch: 49218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-17	MW-533-W-200921	Total/NA	Water	8270D SIM	48038
410-14713-20	DUP-1-WD-200921	Total/NA	Water	8270D SIM	48038

GC VOA

Analysis Batch: 48391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-2	MW-ER-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-3	MW-104-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-4	MW-129R-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-5	MW-139R-W-200921	Total/NA	Water	NWTPH-Gx	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

GC VOA (Continued)

Analysis Batch: 48391 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-6	MW-502-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-7	MW-503-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-8	MW-505-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-9	MW-506-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-10	MW-507-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-11	MW-509-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-12	MW-525-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-13	MW-526-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-15	MW-531-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-16	MW-532-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-17	MW-533-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-18	MW-534-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-19	MW-535-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-20	DUP-1-WD-200921	Total/NA	Water	NWTPH-Gx	
MB 410-48391/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-48391/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-48391/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 49058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	NWTPH-Gx	
410-14713-14	MW-530-W-200921	Total/NA	Water	NWTPH-Gx	
MB 410-49058/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-49058/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-49058/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 47692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	3510C	
410-14713-2	MW-ER-W-200921	Total/NA	Water	3510C	
410-14713-3	MW-104-W-200921	Total/NA	Water	3510C	
410-14713-4	MW-129R-W-200921	Total/NA	Water	3510C	
410-14713-5	MW-139R-W-200921	Total/NA	Water	3510C	
410-14713-6	MW-502-W-200921	Total/NA	Water	3510C	
410-14713-7	MW-503-W-200921	Total/NA	Water	3510C	
410-14713-8	MW-505-W-200921	Total/NA	Water	3510C	
410-14713-9	MW-506-W-200921	Total/NA	Water	3510C	
410-14713-10	MW-507-W-200921	Total/NA	Water	3510C	
410-14713-11	MW-509-W-200921	Total/NA	Water	3510C	
410-14713-12	MW-525-W-200921	Total/NA	Water	3510C	
410-14713-13	MW-526-W-200921	Total/NA	Water	3510C	
410-14713-14	MW-530-W-200921	Total/NA	Water	3510C	
410-14713-15	MW-531-W-200921	Total/NA	Water	3510C	
410-14713-16	MW-532-W-200921	Total/NA	Water	3510C	
410-14713-17	MW-533-W-200921	Total/NA	Water	3510C	
410-14713-18	MW-534-W-200921	Total/NA	Water	3510C	
410-14713-19	MW-535-W-200921	Total/NA	Water	3510C	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

GC Semi VOA (Continued)

Prep Batch: 47692 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-20	DUP-1-WD-200921	Total/NA	Water	3510C	
MB 410-47692/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-47692/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	3510C	
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	3510C	
410-14713-1 DU	LM-2-W-200921	Total/NA	Water	3510C	
410-14713-2 DU	MW-ER-W-200921	Total/NA	Water	3510C	

Cleanup Batch: 49158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	3630C	47692
410-14713-2	MW-ER-W-200921	Total/NA	Water	3630C	47692
410-14713-3	MW-104-W-200921	Total/NA	Water	3630C	47692
410-14713-4	MW-129R-W-200921	Total/NA	Water	3630C	47692
410-14713-5	MW-139R-W-200921	Total/NA	Water	3630C	47692
410-14713-6	MW-502-W-200921	Total/NA	Water	3630C	47692
410-14713-7	MW-503-W-200921	Total/NA	Water	3630C	47692
410-14713-8	MW-505-W-200921	Total/NA	Water	3630C	47692
410-14713-9	MW-506-W-200921	Total/NA	Water	3630C	47692
410-14713-10	MW-507-W-200921	Total/NA	Water	3630C	47692
410-14713-11	MW-509-W-200921	Total/NA	Water	3630C	47692
410-14713-12	MW-525-W-200921	Total/NA	Water	3630C	47692
410-14713-13	MW-526-W-200921	Total/NA	Water	3630C	47692
410-14713-14	MW-530-W-200921	Total/NA	Water	3630C	47692
410-14713-15	MW-531-W-200921	Total/NA	Water	3630C	47692
410-14713-16	MW-532-W-200921	Total/NA	Water	3630C	47692
410-14713-17	MW-533-W-200921	Total/NA	Water	3630C	47692
410-14713-18	MW-534-W-200921	Total/NA	Water	3630C	47692
410-14713-19	MW-535-W-200921	Total/NA	Water	3630C	47692
410-14713-20	DUP-1-WD-200921	Total/NA	Water	3630C	47692
MB 410-47692/1-B	Method Blank	Total/NA	Water	3630C	47692
LCS 410-47692/2-B	Lab Control Sample	Total/NA	Water	3630C	47692
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	3630C	47692
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	3630C	47692
410-14713-1 DU	LM-2-W-200921	Total/NA	Water	3630C	47692
410-14713-2 DU	MW-ER-W-200921	Total/NA	Water	3630C	47692

Analysis Batch: 49608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-1	LM-2-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-2	MW-ER-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-3	MW-104-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-4	MW-129R-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-5	MW-139R-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-6	MW-502-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-7	MW-503-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-8	MW-505-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-9	MW-506-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-10	MW-507-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-11	MW-509-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-12	MW-525-W-200921	Total/NA	Water	NWTPH-Dx	49158

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

GC Semi VOA (Continued)

Analysis Batch: 49608 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-13	MW-526-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-14	MW-530-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-15	MW-531-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-16	MW-532-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-17	MW-533-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-18	MW-534-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-19	MW-535-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-20	DUP-1-WD-200921	Total/NA	Water	NWTPH-Dx	49158
MB 410-47692/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	49158
LCS 410-47692/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	49158
410-14713-8 MS	MW-505-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-8 MSD	MW-505-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-1 DU	LM-2-W-200921	Total/NA	Water	NWTPH-Dx	49158
410-14713-2 DU	MW-ER-W-200921	Total/NA	Water	NWTPH-Dx	49158

Prep Batch: 56692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-14	MW-530-W-200921	Total/NA	Water	3510C	
410-14713-20	DUP-1-WD-200921	Total/NA	Water	3510C	
MB 410-56692/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-56692/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-56692/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-14713-14 DU	MW-530-W-200921	Total/NA	Water	3510C	

Cleanup Batch: 58080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-14	MW-530-W-200921	Total/NA	Water	3630C	56692
410-14713-20	DUP-1-WD-200921	Total/NA	Water	3630C	56692
MB 410-56692/1-B	Method Blank	Total/NA	Water	3630C	56692
LCS 410-56692/2-B	Lab Control Sample	Total/NA	Water	3630C	56692
LCSD 410-56692/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	56692
410-14713-14 DU	MW-530-W-200921	Total/NA	Water	3630C	56692

Analysis Batch: 58695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14713-14	MW-530-W-200921	Total/NA	Water	NWTPH-Dx	58080
410-14713-20	DUP-1-WD-200921	Total/NA	Water	NWTPH-Dx	58080
MB 410-56692/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	58080
LCS 410-56692/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	58080
LCSD 410-56692/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	58080
410-14713-14 DU	MW-530-W-200921	Total/NA	Water	NWTPH-Dx	58080

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: LM-2-W-200921

Lab Sample ID: 410-14713-1

Date Collected: 09/21/20 14:50

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		20	49248	09/30/20 14:54	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	49218	09/30/20 12:52	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		10	49058	09/30/20 07:10	UMDJ	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	09/30/20 23:06	IUSB	ELLE

Client Sample ID: MW-ER-W-200921

Lab Sample ID: 410-14713-2

Date Collected: 09/21/20 12:15

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49248	09/30/20 15:16	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 12:04	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 14:49	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	09/30/20 23:51	IUSB	ELLE

Client Sample ID: MW-104-W-200921

Lab Sample ID: 410-14713-3

Date Collected: 09/21/20 13:00

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49248	09/30/20 15:38	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 12:33	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 15:15	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 00:36	IUSB	ELLE

Client Sample ID: MW-129R-W-200921

Lab Sample ID: 410-14713-4

Date Collected: 09/21/20 11:05

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49248	09/30/20 16:00	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 13:01	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 15:41	JJT8	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-129R-W-200921

Lab Sample ID: 410-14713-4

Date Collected: 09/21/20 11:05

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 00:59	IUSB	ELLE

Client Sample ID: MW-139R-W-200921

Lab Sample ID: 410-14713-5

Date Collected: 09/21/20 10:27

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49248	09/30/20 16:22	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 13:29	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 16:07	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 01:22	IUSB	ELLE

Client Sample ID: MW-502-W-200921

Lab Sample ID: 410-14713-6

Date Collected: 09/21/20 13:55

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49248	09/30/20 16:44	K4WN	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 13:57	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 16:33	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 01:44	IUSB	ELLE

Client Sample ID: MW-503-W-200921

Lab Sample ID: 410-14713-7

Date Collected: 09/21/20 15:15

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 02:37	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 14:25	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 16:59	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 02:07	IUSB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-505-W-200921

Lab Sample ID: 410-14713-8

Date Collected: 09/21/20 13:08

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 00:21	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 10:11	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 18:16	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 02:52	IUSB	ELLE

Client Sample ID: MW-506-W-200921

Lab Sample ID: 410-14713-9

Date Collected: 09/21/20 13:51

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 02:59	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 14:53	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 17:24	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 04:00	IUSB	ELLE

Client Sample ID: MW-507-W-200921

Lab Sample ID: 410-14713-10

Date Collected: 09/21/20 12:36

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 03:21	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 15:21	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 17:50	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 04:23	IUSB	ELLE

Client Sample ID: MW-509-W-200921

Lab Sample ID: 410-14713-11

Date Collected: 09/21/20 11:29

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 03:43	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48264	09/28/20 15:50	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 20:00	JJT8	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-509-W-200921

Lab Sample ID: 410-14713-11

Date Collected: 09/21/20 11:29

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 04:46	IUSB	ELLE

Client Sample ID: MW-525-W-200921

Lab Sample ID: 410-14713-12

Date Collected: 09/21/20 09:40

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 04:05	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 18:18	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 20:26	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 05:08	IUSB	ELLE

Client Sample ID: MW-526-W-200921

Lab Sample ID: 410-14713-13

Date Collected: 09/21/20 11:20

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 04:27	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 18:47	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 20:51	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 05:31	IUSB	ELLE

Client Sample ID: MW-530-W-200921

Lab Sample ID: 410-14713-14

Date Collected: 09/21/20 14:52

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 04:49	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 19:15	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49058	09/30/20 06:45	UMDJ	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 05:54	IUSB	ELLE
Total/NA	Prep	3510C			56692	10/21/20 09:30	U2SJ	ELLE
Total/NA	Cleanup	3630C			58080	10/24/20 02:45	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	58695	10/26/20 21:10	IUSB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-531-W-200921

Lab Sample ID: 410-14713-15

Date Collected: 09/21/20 09:42

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 05:11	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 19:43	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 21:43	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 08:56	IUSB	ELLE

Client Sample ID: MW-532-W-200921

Lab Sample ID: 410-14713-16

Date Collected: 09/21/20 09:35

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 05:33	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 20:12	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 22:09	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 06:17	IUSB	ELLE

Client Sample ID: MW-533-W-200921

Lab Sample ID: 410-14713-17

Date Collected: 09/21/20 10:42

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 05:55	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	49218	09/30/20 12:23	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 22:35	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 07:25	IUSB	ELLE

Client Sample ID: MW-534-W-200921

Lab Sample ID: 410-14713-18

Date Collected: 09/21/20 11:42

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 06:17	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 21:09	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 23:00	JJT8	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Client Sample ID: MW-534-W-200921

Lab Sample ID: 410-14713-18

Date Collected: 09/21/20 11:42

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 07:47	IUSB	ELLE

Client Sample ID: MW-535-W-200921

Lab Sample ID: 410-14713-19

Date Collected: 09/21/20 14:18

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 06:38	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 21:37	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 23:26	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 08:10	IUSB	ELLE

Client Sample ID: DUP-1-WD-200921

Lab Sample ID: 410-14713-20

Date Collected: 09/21/20 00:00

Matrix: Water

Date Received: 09/22/20 10:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	49553	10/01/20 07:00	UJML	ELLE
Total/NA	Prep	3510C			48038	09/26/20 08:30	GC5R	ELLE
Total/NA	Analysis	8270D SIM		1	49218	09/30/20 11:55	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	48391	09/28/20 23:52	JJT8	ELLE
Total/NA	Prep	3510C			47692	09/25/20 09:30	R9CT	ELLE
Total/NA	Cleanup	3630C			49158	09/30/20 01:30	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	49608	10/01/20 08:33	IUSB	ELLE
Total/NA	Prep	3510C			56692	10/21/20 09:30	U2SJ	ELLE
Total/NA	Cleanup	3630C			58080	10/24/20 02:45	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	58695	10/26/20 21:55	IUSB	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14713-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-14713-1	LM-2-W-200921	Water	09/21/20 14:50	09/22/20 10:56	
410-14713-2	MW-ER-W-200921	Water	09/21/20 12:15	09/22/20 10:56	
410-14713-3	MW-104-W-200921	Water	09/21/20 13:00	09/22/20 10:56	
410-14713-4	MW-129R-W-200921	Water	09/21/20 11:05	09/22/20 10:56	
410-14713-5	MW-139R-W-200921	Water	09/21/20 10:27	09/22/20 10:56	
410-14713-6	MW-502-W-200921	Water	09/21/20 13:55	09/22/20 10:56	
410-14713-7	MW-503-W-200921	Water	09/21/20 15:15	09/22/20 10:56	
410-14713-8	MW-505-W-200921	Water	09/21/20 13:08	09/22/20 10:56	
410-14713-9	MW-506-W-200921	Water	09/21/20 13:51	09/22/20 10:56	
410-14713-10	MW-507-W-200921	Water	09/21/20 12:36	09/22/20 10:56	
410-14713-11	MW-509-W-200921	Water	09/21/20 11:29	09/22/20 10:56	
410-14713-12	MW-525-W-200921	Water	09/21/20 09:40	09/22/20 10:56	
410-14713-13	MW-526-W-200921	Water	09/21/20 11:20	09/22/20 10:56	
410-14713-14	MW-530-W-200921	Water	09/21/20 14:52	09/22/20 10:56	
410-14713-15	MW-531-W-200921	Water	09/21/20 09:42	09/22/20 10:56	
410-14713-16	MW-532-W-200921	Water	09/21/20 09:35	09/22/20 10:56	
410-14713-17	MW-533-W-200921	Water	09/21/20 10:42	09/22/20 10:56	
410-14713-18	MW-534-W-200921	Water	09/21/20 11:42	09/22/20 10:56	
410-14713-19	MW-535-W-200921	Water	09/21/20 14:18	09/22/20 10:56	
410-14713-20	DUP-1-WD-200921	Water	09/21/20 00:00	09/22/20 10:56	



Lancaster Laboratories

Acct. # 410-14713 Chain of Custody

ories use only
 Sample #
 and with circled numbers.

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1 Client Information				4 Matrix				5 Analyses Requested								6 Remarks											
Facility # WBS Edmonds Terminal				Sediment <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/>				Total Number of Containers 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan								SCR #: _____											
Site Address 11720 UNOCO Road, Edmonds WA				Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>				Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/>								<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits											
Chevron PM Lead Consultant KIM JOLITZ Arcadis				Oil <input type="checkbox"/>				Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/>																			
Consultant/Office 1100 Olive way, Suite 800, Seattle, WA 98101				Composite <input type="checkbox"/>				CATHs 8270 SIM								6 MSP standard SGC											
Consultant Project Mgr. Sam Miles				Soil <input type="checkbox"/>				8260 full scan																			
Consultant Phone #				Water <input type="checkbox"/>				8260 full scan																			
Sampler Danielsy Gilbert, Kiley Zambri, Ryan Branch 19				Grab <input type="checkbox"/>				8260 full scan																			
2 Sample Identification		3 Collected																									
Sample ID	Date	Time	Grab	Composite	Soil	Water	Oil	Total Number of Containers	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH	Remarks							
LM-2	9-21-20	1430	X			X		10	X		X	X									MSP standard SGC						
MW-ER		1215				X		1	X		X	X															
MW-104		1300				X			X		X	X															
MW-129R		1105				X			X		X	X															
MW-139R		1027				X			X		X	X															
MW-507		1355				X			X		X	X															
MW-503		1515				X			X		X	X															
MW-505		1308				X			X		X	X															
MW-506		1351				X			X		X	X															
MW-507		1236				X			X		X	X															
MW-509		1129				X			X		X	X															
MW-515		940				X			X		X	X															
MW-526		1120				X			X		X	X															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by				Date				Time				Received by				Date				Time			
Standard 5 day 4 day				Danielsy Gilbert				9-21-20				1715															
72 hour 48 hour 24 hour																											
8 Data Package Options (please circle if required)				Relinquished by Commercial Carrier:				Received by				Date				Time											
Type I - Full Type VI (Raw Data)				UPS FedEx X Other				Miles				9/22/20				1050											
				Temperature Upon Receipt 120/116 °C				Custody Seals Intact? Yes				No															

DM

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # _____

Group # _____

For Lancaster Laboratories use only

Sample # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix			5 Analyses Requested										6 Remarks						
Facility # WBS Edmonds Terminal Site Address 11720 UNOCO ROAD, Edmonds, WA Chevron PM Kim Jolitz Lead Consultant Arcadis Consultant/Office 1100 Olive Way, Suite 800, Seattle, WA Consultant Project Mgr. Sam Miles Consultant Phone # 98101				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Oil			Total Number of Containers 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> 8260 8260 full scan Oxygenates NWTPH GX NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAPV <input type="checkbox"/> WAEPH <input type="checkbox"/> QAHS. 8270 SIM										SCR #: _____ <input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits						
2 Sample Identification		3 Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX <input checked="" type="checkbox"/>	Silica Gel Cleanup <input checked="" type="checkbox"/>	Lead	Total	Diss.	Method	WAPV	WAEPH	QAHS. 8270 SIM	6 Remarks	
Date	Time	Date	Time																				
MW-530	9-21-20	1452	X				X		X			X	X									use standard 56C	
MW-531		0142					X		X			X	X										
MW-532		0935					X		X			X	X										
MW-533		1042					X		X			X	X										
MW-534		1142					X		X			X	X										
MW-535		1418					X		X			X	X										
Dup-1							X		X			X	X										
7 Turnaround Time Requested (TAT) (please circle) Standard 5 day 4 day 72 hour 48 hour 24 hour				Relinquished by [Signature]		Date 9/21/20		Time 1715		Received by _____		Date _____		Time _____									
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)				Relinquished by Commercial Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____		Temperature Upon Receipt 1.0/1.0		Received by [Signature]		Date 9/22/20		Time 1056		Custody Seals Intact? Yes									

chem

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-14713-1

Login Number: 14713

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-14713-1

Login Number: 14713

List Number: 2

Creator: Miller, Wesley R

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-14827-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:
10/9/2020 1:21:36 PM
Dana Kauffman, Report Production Representative
danakauffman@eurofinsus.com

Designee for
Amek Carter, Project Manager
(717)556-7252
amekcarter@eurofinsus.com

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results through
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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in cursive script, appearing to read "Dana Kauffman".

Dana Kauffman
Report Production Representative
10/9/2020 1:21:36 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate recovery exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Job ID: 410-14827-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-14827-1

Receipt

The samples were received on 9/23/2020 10:45 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8°C and 1.7°C

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MW-514 (410-14827-11)

One or more containers for the following sample was received broken or leaking:

One 40 mL HCl vial

MW-514 (410-14827-11).

GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

Method 8270D_SIM: Internal standard (ISTD) response for the following samples were outside of acceptance limits: MW-101 (410-14827-1), MW-504 (410-14827-2), MW-511 (410-14827-3), MW-512 (410-14827-4), MW-513 (410-14827-5), MW-513 (410-14827-5[MS]), MW-513 (410-14827-5[MSD]), MW-520 (410-14827-6), MW-521 (410-14827-7), Dup-2 (410-14827-8), Dup-3 (410-14827-9) and MW-514 (410-14827-11). Due to laboratory error, the incorrect amount of internal standard was added to the samples. The concentrations were adjusted accordingly and the data reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method NWTPH_Dx: Surrogate recovery was outside acceptance limits for the following matrix spike(MS) sample: MW-513 (410-14827-5[MS]). The parent sample's surrogate recovery was within limits. The MS sample has been qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-101

Lab Sample ID: 410-14827-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1800		250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-504

Lab Sample ID: 410-14827-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	28	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-511

Lab Sample ID: 410-14827-3

No Detections.

Client Sample ID: MW-512

Lab Sample ID: 410-14827-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	27	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-513

Lab Sample ID: 410-14827-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	52	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-520

Lab Sample ID: 410-14827-6

No Detections.

Client Sample ID: MW-521

Lab Sample ID: 410-14827-7

No Detections.

Client Sample ID: Dup-2

Lab Sample ID: 410-14827-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1700		250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: Dup-3

Lab Sample ID: 410-14827-9

No Detections.

Client Sample ID: Trip Blank

Lab Sample ID: 410-14827-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	120	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-514

Lab Sample ID: 410-14827-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	60	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-101

Lab Sample ID: 410-14827-1

Date Collected: 09/22/20 11:20

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 00:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120					09/30/20 00:08	1
4-Bromofluorobenzene (Surr)	100		80 - 120					09/30/20 00:08	1
Dibromofluoromethane (Surr)	91		80 - 120					09/30/20 00:08	1
Toluene-d8 (Surr)	102		80 - 120					09/30/20 00:08	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Benzo[a]pyrene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Benzo[b]fluoranthene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Benzo[k]fluoranthene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Chrysene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Dibenz(a,h)anthracene	ND	*3	0.073	0.021	ug/L		09/28/20 08:45	09/29/20 12:38	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 12:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	68	*3	10 - 138				09/28/20 08:45	09/29/20 12:38	1
1-Methylnaphthalene-d10 (Surr)	108	*3	15 - 121				09/28/20 08:45	09/29/20 12:38	1
Fluoranthene-d10 (Surr)	116	*3	34 - 125				09/28/20 08:45	09/29/20 12:38	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1800		250	19	ug/L			09/30/20 03:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150					09/30/20 03:00	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:01	10/02/20 06:28	1
C24-C40	ND		270	110	ug/L		09/26/20 06:01	10/02/20 06:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/26/20 06:01	10/02/20 06:28	1
o-terphenyl (Surr)	67		50 - 150				09/26/20 06:01	10/02/20 06:28	1

Client Sample ID: MW-504

Lab Sample ID: 410-14827-2

Date Collected: 09/22/20 13:00

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 00:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120					09/30/20 00:30	1
4-Bromofluorobenzene (Surr)	98		80 - 120					09/30/20 00:30	1
Dibromofluoromethane (Surr)	91		80 - 120					09/30/20 00:30	1
Toluene-d8 (Surr)	102		80 - 120					09/30/20 00:30	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-504

Lab Sample ID: 410-14827-2

Date Collected: 09/22/20 13:00

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1
Benzo[a]pyrene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1
Benzo[b]fluoranthene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1
Benzo[k]fluoranthene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1
Chrysene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1
Dibenz(a,h)anthracene	ND	*3	0.073	0.021	ug/L		09/28/20 08:45	09/29/20 13:06	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	24	*3	10 - 138	09/28/20 08:45	09/29/20 13:06	1
1-Methylnaphthalene-d10 (Surr)	74	*3	15 - 121	09/28/20 08:45	09/29/20 13:06	1
Fluoranthene-d10 (Surr)	97	*3	34 - 125	09/28/20 08:45	09/29/20 13:06	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	28	J	250	19	ug/L			09/30/20 03:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	93		50 - 150		09/30/20 03:27	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:01	10/02/20 07:13	1
C24-C40	ND		270	110	ug/L		09/26/20 06:01	10/02/20 07:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 07:13	1
o-terphenyl (Surr)	68		50 - 150	09/26/20 06:01	10/02/20 07:13	1

Client Sample ID: MW-511

Lab Sample ID: 410-14827-3

Date Collected: 09/22/20 09:10

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 00:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/30/20 00:52	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/30/20 00:52	1
Dibromofluoromethane (Surr)	91		80 - 120		09/30/20 00:52	1
Toluene-d8 (Surr)	102		80 - 120		09/30/20 00:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1
Benzo[a]pyrene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1
Benzo[b]fluoranthene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1
Benzo[k]fluoranthene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1
Chrysene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1
Dibenz(a,h)anthracene	ND	*3	0.076	0.022	ug/L		09/28/20 08:45	09/29/20 13:35	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 13:35	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-511

Lab Sample ID: 410-14827-3

Date Collected: 09/22/20 09:10

Matrix: Water

Date Received: 09/23/20 10:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	81	*3	10 - 138	09/28/20 08:45	09/29/20 13:35	1
1-Methylnaphthalene-d10 (Surr)	67	*3	15 - 121	09/28/20 08:45	09/29/20 13:35	1
Fluoranthene-d10 (Surr)	84	*3	34 - 125	09/28/20 08:45	09/29/20 13:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 04:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	89		50 - 150		09/30/20 04:21	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		09/26/20 06:01	10/02/20 07:36	1
C24-C40	ND		250	100	ug/L		09/26/20 06:01	10/02/20 07:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 07:36	1
o-terphenyl (Surr)	63		50 - 150	09/26/20 06:01	10/02/20 07:36	1

Client Sample ID: MW-512

Lab Sample ID: 410-14827-4

Date Collected: 09/22/20 09:51

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 01:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		09/30/20 01:14	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 01:14	1
Dibromofluoromethane (Surr)	91		80 - 120		09/30/20 01:14	1
Toluene-d8 (Surr)	102		80 - 120		09/30/20 01:14	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1
Benzo[a]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1
Benzo[b]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1
Benzo[k]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1
Chrysene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1
Dibenz(a,h)anthracene	ND	*3	0.071	0.020	ug/L		09/28/20 08:45	09/29/20 14:03	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	46	*3	10 - 138	09/28/20 08:45	09/29/20 14:03	1
1-Methylnaphthalene-d10 (Surr)	75	*3	15 - 121	09/28/20 08:45	09/29/20 14:03	1
Fluoranthene-d10 (Surr)	95	*3	34 - 125	09/28/20 08:45	09/29/20 14:03	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	27	J	250	19	ug/L			09/30/20 04:49	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-512

Lab Sample ID: 410-14827-4

Date Collected: 09/22/20 09:51

Matrix: Water

Date Received: 09/23/20 10:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	87		50 - 150		09/30/20 04:49	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		09/26/20 06:01	10/02/20 07:59	1
C24-C40	ND		260	110	ug/L		09/26/20 06:01	10/02/20 07:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 07:59	1
<i>o</i> -terphenyl (Surr)	66		50 - 150	09/26/20 06:01	10/02/20 07:59	1

Client Sample ID: MW-513

Lab Sample ID: 410-14827-5

Date Collected: 09/22/20 09:52

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 01:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/30/20 01:37	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 01:37	1
Dibromofluoromethane (Surr)	89		80 - 120		09/30/20 01:37	1
Toluene-d8 (Surr)	101		80 - 120		09/30/20 01:37	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1
Benzo[a]pyrene	ND	*3 F1	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1
Benzo[b]fluoranthene	ND	*3 F1	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1
Benzo[k]fluoranthene	ND	*3 F1	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1
Chrysene	ND	*3	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1
Dibenz(a,h)anthracene	ND	*3 F1	0.072	0.021	ug/L		09/28/20 08:45	09/29/20 14:31	1
Indeno[1,2,3-cd]pyrene	ND	*3 F1 F2	0.052	0.010	ug/L		09/28/20 08:45	09/29/20 14:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	21	*3	10 - 138	09/28/20 08:45	09/29/20 14:31	1
1-Methylnaphthalene-d10 (Surr)	76	*3	15 - 121	09/28/20 08:45	09/29/20 14:31	1
Fluoranthene-d10 (Surr)	90	*3	34 - 125	09/28/20 08:45	09/29/20 14:31	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	52	J	250	19	ug/L			09/30/20 05:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	94		50 - 150		09/30/20 05:16	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		09/26/20 06:01	10/02/20 08:21	1
C24-C40	ND		280	110	ug/L		09/26/20 06:01	10/02/20 08:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-513

Date Collected: 09/22/20 09:52

Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 08:21	1
<i>o</i> -terphenyl (Surr)	53		50 - 150	09/26/20 06:01	10/02/20 08:21	1

Client Sample ID: MW-520

Date Collected: 09/22/20 10:30

Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 02:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120		09/30/20 02:43	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 02:43	1
Dibromofluoromethane (Surr)	90		80 - 120		09/30/20 02:43	1
Toluene-d8 (Surr)	103		80 - 120		09/30/20 02:43	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1
Benzo[a]pyrene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1
Benzo[b]fluoranthene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1
Benzo[k]fluoranthene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1
Chrysene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1
Dibenz(a,h)anthracene	ND	*3	0.075	0.021	ug/L		09/28/20 08:45	09/29/20 15:56	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.054	0.011	ug/L		09/28/20 08:45	09/29/20 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	38	*3	10 - 138	09/28/20 08:45	09/29/20 15:56	1
1-Methylnaphthalene-d10 (Surr)	76	*3	15 - 121	09/28/20 08:45	09/29/20 15:56	1
Fluoranthene-d10 (Surr)	94	*3	34 - 125	09/28/20 08:45	09/29/20 15:56	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 06:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	88		50 - 150		09/30/20 06:37	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:01	10/02/20 09:52	1
C24-C40	ND		270	110	ug/L		09/26/20 06:01	10/02/20 09:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 09:52	1
<i>o</i> -terphenyl (Surr)	62		50 - 150	09/26/20 06:01	10/02/20 09:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-521

Lab Sample ID: 410-14827-7

Date Collected: 09/22/20 11:45

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 03:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120					09/30/20 03:05	1
4-Bromofluorobenzene (Surr)	97		80 - 120					09/30/20 03:05	1
Dibromofluoromethane (Surr)	91		80 - 120					09/30/20 03:05	1
Toluene-d8 (Surr)	102		80 - 120					09/30/20 03:05	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Benzo[a]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Benzo[b]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Benzo[k]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Chrysene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Dibenz(a,h)anthracene	ND	*3	0.071	0.020	ug/L		09/28/20 08:45	09/29/20 16:25	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	46	*3	10 - 138				09/28/20 08:45	09/29/20 16:25	1
1-Methylnaphthalene-d10 (Surr)	73	*3	15 - 121				09/28/20 08:45	09/29/20 16:25	1
Fluoranthene-d10 (Surr)	91	*3	34 - 125				09/28/20 08:45	09/29/20 16:25	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 07:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					09/30/20 07:04	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/26/20 06:01	10/02/20 10:15	1
C24-C40	ND		260	100	ug/L		09/26/20 06:01	10/02/20 10:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/26/20 06:01	10/02/20 10:15	1
o-terphenyl (Surr)	72		50 - 150				09/26/20 06:01	10/02/20 10:15	1

Client Sample ID: Dup-2

Lab Sample ID: 410-14827-8

Date Collected: 09/22/20 00:00

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 03:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 120					09/30/20 03:27	1
4-Bromofluorobenzene (Surr)	98		80 - 120					09/30/20 03:27	1
Dibromofluoromethane (Surr)	92		80 - 120					09/30/20 03:27	1
Toluene-d8 (Surr)	101		80 - 120					09/30/20 03:27	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: Dup-2
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-8
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1
Benzo[a]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1
Benzo[b]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1
Benzo[k]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1
Chrysene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1
Dibenz(a,h)anthracene	ND	*3	0.072	0.021	ug/L		09/28/20 08:45	09/29/20 16:53	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	65	*3	10 - 138	09/28/20 08:45	09/29/20 16:53	1
1-Methylnaphthalene-d10 (Surr)	138	*3 X	15 - 121	09/28/20 08:45	09/29/20 16:53	1
Fluoranthene-d10 (Surr)	111	*3	34 - 125	09/28/20 08:45	09/29/20 16:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1700		250	19	ug/L			09/30/20 07:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/30/20 07:31	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		09/26/20 06:01	10/02/20 10:37	1
C24-C40	ND		260	110	ug/L		09/26/20 06:01	10/02/20 10:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 10:37	1
o-terphenyl (Surr)	66		50 - 150	09/26/20 06:01	10/02/20 10:37	1

Client Sample ID: Dup-3
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 03:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120		09/30/20 03:49	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 03:49	1
Dibromofluoromethane (Surr)	91		80 - 120		09/30/20 03:49	1
Toluene-d8 (Surr)	102		80 - 120		09/30/20 03:49	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1
Benzo[a]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1
Benzo[b]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1
Benzo[k]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1
Chrysene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1
Dibenz(a,h)anthracene	ND	*3	0.072	0.021	ug/L		09/28/20 08:45	09/29/20 17:21	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:21	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: Dup-3
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	43	*3	10 - 138	09/28/20 08:45	09/29/20 17:21	1
1-Methylnaphthalene-d10 (Surr)	78	*3	15 - 121	09/28/20 08:45	09/29/20 17:21	1
Fluoranthene-d10 (Surr)	93	*3	34 - 125	09/28/20 08:45	09/29/20 17:21	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 07:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		09/30/20 07:58	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:01	10/02/20 11:00	1
C24-C40	ND		270	110	ug/L		09/26/20 06:01	10/02/20 11:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 11:00	1
o-terphenyl (Surr)	50		50 - 150	09/26/20 06:01	10/02/20 11:00	1

Client Sample ID: Trip Blank

Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/29/20 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120		09/29/20 23:46	1
4-Bromofluorobenzene (Surr)	96		80 - 120		09/29/20 23:46	1
Dibromofluoromethane (Surr)	92		80 - 120		09/29/20 23:46	1
Toluene-d8 (Surr)	102		80 - 120		09/29/20 23:46	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	120	J	250	19	ug/L			09/30/20 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/30/20 02:32	1

Client Sample ID: MW-514

Date Collected: 09/22/20 11:22
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/30/20 04:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		80 - 120		09/30/20 04:11	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/20 04:11	1
Dibromofluoromethane (Surr)	91		80 - 120		09/30/20 04:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-514

Lab Sample ID: 410-14827-11

Date Collected: 09/22/20 11:22

Matrix: Water

Date Received: 09/23/20 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		09/30/20 04:11	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1
Benzo[a]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1
Benzo[b]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1
Benzo[k]fluoranthene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1
Chrysene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1
Dibenz(a,h)anthracene	ND	*3	0.071	0.020	ug/L		09/28/20 08:45	09/29/20 17:50	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.051	0.010	ug/L		09/28/20 08:45	09/29/20 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	28	*3	10 - 138	09/28/20 08:45	09/29/20 17:50	1
1-Methylnaphthalene-d10 (Surr)	81	*3	15 - 121	09/28/20 08:45	09/29/20 17:50	1
Fluoranthene-d10 (Surr)	99	*3	34 - 125	09/28/20 08:45	09/29/20 17:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	60	J	250	19	ug/L			09/30/20 08:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		09/30/20 08:25	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/26/20 06:01	10/02/20 11:23	1
C24-C40	ND		260	100	ug/L		09/26/20 06:01	10/02/20 11:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:01	10/02/20 11:23	1
o-terphenyl (Surr)	58		50 - 150	09/26/20 06:01	10/02/20 11:23	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-14827-1	MW-101	94	100	91	102
410-14827-2	MW-504	94	98	91	102
410-14827-3	MW-511	95	98	91	102
410-14827-4	MW-512	97	97	91	102
410-14827-5	MW-513	95	97	89	101
410-14827-5 MS	MW-513	92	97	91	101
410-14827-5 MSD	MW-513	95	99	90	102
410-14827-6	MW-520	94	97	90	103
410-14827-7	MW-521	95	97	91	102
410-14827-8	Dup-2	96	98	92	101
410-14827-9	Dup-3	94	97	91	102
410-14827-10	Trip Blank	95	96	92	102
410-14827-11	MW-514	93	97	91	102
LCS 410-49118/4	Lab Control Sample	95	98	92	102
LCS 410-49118/5	Lab Control Sample Dup	94	97	92	102
MB 410-49118/7	Method Blank	93	97	90	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-14827-1	MW-101	68 *3	108 *3	116 *3
410-14827-2	MW-504	24 *3	74 *3	97 *3
410-14827-3	MW-511	81 *3	67 *3	84 *3
410-14827-4	MW-512	46 *3	75 *3	95 *3
410-14827-5	MW-513	21 *3	76 *3	90 *3
410-14827-5 MS	MW-513	18 *3	80 *3	95 *3
410-14827-5 MSD	MW-513	15 *3	88 *3	101 *3
410-14827-6	MW-520	38 *3	76 *3	94 *3
410-14827-7	MW-521	46 *3	73 *3	91 *3
410-14827-8	Dup-2	65 *3	138 *3 X	111 *3
410-14827-9	Dup-3	43 *3	78 *3	93 *3
410-14827-11	MW-514	28 *3	81 *3	99 *3
LCS 410-48269/2-A	Lab Control Sample	88 *3	70 *3	101 *3
MB 410-48269/1-A	Method Blank	86 *3	93 *3	96 *3

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-14827-1	MW-101	92
410-14827-2	MW-504	93
410-14827-3	MW-511	89
410-14827-4	MW-512	87
410-14827-5	MW-513	94
410-14827-5 MS	MW-513	94
410-14827-5 MSD	MW-513	89
410-14827-6	MW-520	88
410-14827-7	MW-521	85
410-14827-8	Dup-2	86
410-14827-9	Dup-3	91
410-14827-10	Trip Blank	86
410-14827-11	MW-514	92
LCS 410-49075/5	Lab Control Sample	91
LCSD 410-49075/6	Lab Control Sample Dup	87
MB 410-49075/4	Method Blank	87

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-14827-1	MW-101	0.3	67
410-14827-1 DU	MW-101	0.3	57
410-14827-2	MW-504	0.3	68
410-14827-3	MW-511	0.3	63
410-14827-4	MW-512	0.3	66
410-14827-5	MW-513	0.3	53
410-14827-5 MS	MW-513	0.4	39 X
410-14827-5 MSD	MW-513	0.4	51
410-14827-6	MW-520	0.3	62
410-14827-7	MW-521	0.3	72
410-14827-8	Dup-2	0.3	66
410-14827-9	Dup-3	0.3	50
410-14827-11	MW-514	0.3	58
LCS 410-48035/2-B	Lab Control Sample	0.5	76
MB 410-48035/1-B	Method Blank	0.3	64

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-49118/7
Matrix: Water
Analysis Batch: 49118

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/29/20 23:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		80 - 120					09/29/20 23:23	1
4-Bromofluorobenzene (Surr)	97		80 - 120					09/29/20 23:23	1
Dibromofluoromethane (Surr)	90		80 - 120					09/29/20 23:23	1
Toluene-d8 (Surr)	102		80 - 120					09/29/20 23:23	1

Lab Sample ID: LCS 410-49118/4
Matrix: Water
Analysis Batch: 49118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	22.3		ug/L		112	80 - 120
Ethylbenzene	20.0	21.8		ug/L		109	80 - 120
Methyl tertiary butyl ether	20.0	20.1		ug/L		100	69 - 122
Toluene	20.0	21.7		ug/L		108	80 - 120
Xylenes, Total	60.0	61.7		ug/L		103	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	95		80 - 120				
4-Bromofluorobenzene (Surr)	98		80 - 120				
Dibromofluoromethane (Surr)	92		80 - 120				
Toluene-d8 (Surr)	102		80 - 120				

Lab Sample ID: LCSD 410-49118/5
Matrix: Water
Analysis Batch: 49118

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	22.2		ug/L		111	80 - 120	0	30
Ethylbenzene	20.0	21.8		ug/L		109	80 - 120	0	30
Methyl tertiary butyl ether	20.0	20.3		ug/L		101	69 - 122	1	30
Toluene	20.0	21.9		ug/L		110	80 - 120	1	30
Xylenes, Total	60.0	61.7		ug/L		103	80 - 120	0	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	94		80 - 120						
4-Bromofluorobenzene (Surr)	97		80 - 120						
Dibromofluoromethane (Surr)	92		80 - 120						
Toluene-d8 (Surr)	102		80 - 120						

Lab Sample ID: 410-14827-5 MS
Matrix: Water
Analysis Batch: 49118

Client Sample ID: MW-513
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	24.0		ug/L		120	80 - 120

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-14827-5 MS
Matrix: Water
Analysis Batch: 49118

Client Sample ID: MW-513
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	ND		20.0	23.9		ug/L		120	80 - 120
Methyl tertiary butyl ether	ND		20.0	21.2		ug/L		106	69 - 122
Toluene	ND		20.0	23.7		ug/L		118	80 - 120
Xylenes, Total	ND		60.0	67.0		ug/L		112	80 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		80 - 120
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	91		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 49118

Client Sample ID: MW-513
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	23.5		ug/L		117	80 - 120	2	30
Ethylbenzene	ND		20.0	23.6		ug/L		118	80 - 120	1	30
Methyl tertiary butyl ether	ND		20.0	20.9		ug/L		105	69 - 122	1	30
Toluene	ND		20.0	23.4		ug/L		117	80 - 120	1	30
Xylenes, Total	ND		60.0	66.8		ug/L		111	80 - 120	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	90		80 - 120
Toluene-d8 (Surr)	102		80 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-48269/1-A
Matrix: Water
Analysis Batch: 48711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1
Benzo[a]pyrene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1
Benzo[b]fluoranthene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1
Benzo[k]fluoranthene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1
Chrysene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1
Dibenz(a,h)anthracene	ND	*3	0.070	0.020	ug/L		09/28/20 08:45	09/29/20 11:41	1
Indeno[1,2,3-cd]pyrene	ND	*3	0.050	0.010	ug/L		09/28/20 08:45	09/29/20 11:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	86	*3	10 - 138	09/28/20 08:45	09/29/20 11:41	1
1-Methylnaphthalene-d10 (Surr)	93	*3	15 - 121	09/28/20 08:45	09/29/20 11:41	1
Fluoranthene-d10 (Surr)	96	*3	34 - 125	09/28/20 08:45	09/29/20 11:41	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-48269/2-A
Matrix: Water
Analysis Batch: 48711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.999	*3	ug/L		100	61 - 117
Benzo[a]pyrene	1.00	0.966	*3	ug/L		96	63 - 135
Benzo[b]fluoranthene	1.00	0.952	*3	ug/L		95	66 - 138
Benzo[k]fluoranthene	1.00	1.01	*3	ug/L		101	58 - 142
Chrysene	1.00	0.960	*3	ug/L		96	61 - 117
Dibenz(a,h)anthracene	1.00	0.871	*3	ug/L		87	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.863	*3	ug/L		86	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	88	*3	10 - 138
1-Methylnaphthalene-d10 (Surr)	70	*3	15 - 121
Fluoranthene-d10 (Surr)	101	*3	34 - 125

Lab Sample ID: 410-14827-5 MS
Matrix: Water
Analysis Batch: 48711

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48269

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	ND	*3	1.05	0.827	*3	ug/L		79	61 - 117
Benzo[a]pyrene	ND	*3 F1	1.05	0.217	*3 F1	ug/L		21	63 - 135
Benzo[b]fluoranthene	ND	*3 F1	1.05	0.694	*3	ug/L		66	66 - 138
Benzo[k]fluoranthene	ND	*3 F1	1.05	0.430	*3 F1	ug/L		41	58 - 142
Chrysene	ND	*3	1.05	0.862	*3	ug/L		82	61 - 117
Dibenz(a,h)anthracene	ND	*3 F1	1.05	0.235	*3 F1	ug/L		22	51 - 139
Indeno[1,2,3-cd]pyrene	ND	*3 F1 F2	1.05	0.153	*3 F1	ug/L		15	56 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	18	*3	10 - 138
1-Methylnaphthalene-d10 (Surr)	80	*3	15 - 121
Fluoranthene-d10 (Surr)	95	*3	34 - 125

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 48711

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48269

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	ND	*3	1.05	0.818	*3	ug/L		78	61 - 117	1	30
Benzo[a]pyrene	ND	*3 F1	1.05	0.179	*3 F1	ug/L		17	63 - 135	19	30
Benzo[b]fluoranthene	ND	*3 F1	1.05	0.624	*3 F1	ug/L		59	66 - 138	11	30
Benzo[k]fluoranthene	ND	*3 F1	1.05	0.341	*3 F1	ug/L		33	58 - 142	23	30
Chrysene	ND	*3	1.05	0.864	*3	ug/L		83	61 - 117	0	30
Dibenz(a,h)anthracene	ND	*3 F1	1.05	0.185	*3 F1	ug/L		18	51 - 139	24	30
Indeno[1,2,3-cd]pyrene	ND	*3 F1 F2	1.05	0.110	*3 F1 F2	ug/L		11	56 - 147	32	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	15	*3	10 - 138
1-Methylnaphthalene-d10 (Surr)	88	*3	15 - 121

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 48711

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48269

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Fluoranthene-d10 (Surr)	101	*3	34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-49075/4
Matrix: Water
Analysis Batch: 49075

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/29/20 21:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		09/29/20 21:59	1			

Lab Sample ID: LCS 410-49075/5
Matrix: Water
Analysis Batch: 49075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1230		ug/L		111	64 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150				

Lab Sample ID: LCSD 410-49075/6
Matrix: Water
Analysis Batch: 49075

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1220		ug/L		111	64 - 131	0	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150						

Lab Sample ID: 410-14827-5 MS
Matrix: Water
Analysis Batch: 49075

Client Sample ID: MW-513
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	52	J	1120	1380		ug/L		119	80 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	94		50 - 150						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 49075

Client Sample ID: MW-513
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	52	J	1120	1360		ug/L		117	80 - 120	1	30
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	89		50 - 150								

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-48035/1-B
Matrix: Water
Analysis Batch: 50076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		09/26/20 06:01	10/02/20 05:42	1
C24-C40	ND		250	100	ug/L		09/26/20 06:01	10/02/20 05:42	1
Surrogate	%Recovery	MB Qualifier	MB Limits						
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1						
<i>o-terphenyl (Surr)</i>	64		50 - 150						

Lab Sample ID: LCS 410-48035/2-B
Matrix: Water
Analysis Batch: 50076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	256		ug/L		43	10 - 115
Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits				
<i>n-Decanoic Acid (Surr)</i>	0.5		0 - 1				
<i>o-terphenyl (Surr)</i>	76		50 - 150				

Lab Sample ID: 410-14827-5 MS
Matrix: Water
Analysis Batch: 50076

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	ND		625	225		ug/L		36	30 - 115
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1						
<i>o-terphenyl (Surr)</i>	39	X	50 - 150						

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 50076

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48035

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	ND		623	265		ug/L		43	30 - 115	16	20

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: 410-14827-5 MSD
Matrix: Water
Analysis Batch: 50076

Client Sample ID: MW-513
Prep Type: Total/NA
Prep Batch: 48035

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD Qualifier</i>	<i>MSD Limits</i>
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	51		50 - 150

Lab Sample ID: 410-14827-1 DU
Matrix: Water
Analysis Batch: 50076

Client Sample ID: MW-101
Prep Type: Total/NA
Prep Batch: 48035

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>DU Result</i>	<i>DU Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>Limit</i>
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU Qualifier</i>	<i>DU Limits</i>
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	57		50 - 150

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

GC/MS VOA

Analysis Batch: 49118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	8260C	
410-14827-2	MW-504	Total/NA	Water	8260C	
410-14827-3	MW-511	Total/NA	Water	8260C	
410-14827-4	MW-512	Total/NA	Water	8260C	
410-14827-5	MW-513	Total/NA	Water	8260C	
410-14827-6	MW-520	Total/NA	Water	8260C	
410-14827-7	MW-521	Total/NA	Water	8260C	
410-14827-8	Dup-2	Total/NA	Water	8260C	
410-14827-9	Dup-3	Total/NA	Water	8260C	
410-14827-10	Trip Blank	Total/NA	Water	8260C	
410-14827-11	MW-514	Total/NA	Water	8260C	
MB 410-49118/7	Method Blank	Total/NA	Water	8260C	
LCS 410-49118/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 410-49118/5	Lab Control Sample Dup	Total/NA	Water	8260C	
410-14827-5 MS	MW-513	Total/NA	Water	8260C	
410-14827-5 MSD	MW-513	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 48269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	3510C	
410-14827-2	MW-504	Total/NA	Water	3510C	
410-14827-3	MW-511	Total/NA	Water	3510C	
410-14827-4	MW-512	Total/NA	Water	3510C	
410-14827-5	MW-513	Total/NA	Water	3510C	
410-14827-6	MW-520	Total/NA	Water	3510C	
410-14827-7	MW-521	Total/NA	Water	3510C	
410-14827-8	Dup-2	Total/NA	Water	3510C	
410-14827-9	Dup-3	Total/NA	Water	3510C	
410-14827-11	MW-514	Total/NA	Water	3510C	
MB 410-48269/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-48269/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-14827-5 MS	MW-513	Total/NA	Water	3510C	
410-14827-5 MSD	MW-513	Total/NA	Water	3510C	

Analysis Batch: 48711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	8270D SIM	48269
410-14827-2	MW-504	Total/NA	Water	8270D SIM	48269
410-14827-3	MW-511	Total/NA	Water	8270D SIM	48269
410-14827-4	MW-512	Total/NA	Water	8270D SIM	48269
410-14827-5	MW-513	Total/NA	Water	8270D SIM	48269
410-14827-6	MW-520	Total/NA	Water	8270D SIM	48269
410-14827-7	MW-521	Total/NA	Water	8270D SIM	48269
410-14827-8	Dup-2	Total/NA	Water	8270D SIM	48269
410-14827-9	Dup-3	Total/NA	Water	8270D SIM	48269
410-14827-11	MW-514	Total/NA	Water	8270D SIM	48269
MB 410-48269/1-A	Method Blank	Total/NA	Water	8270D SIM	48269
LCS 410-48269/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	48269
410-14827-5 MS	MW-513	Total/NA	Water	8270D SIM	48269

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

GC/MS Semi VOA (Continued)

Analysis Batch: 48711 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-5 MSD	MW-513	Total/NA	Water	8270D SIM	48269

GC VOA

Analysis Batch: 49075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	NWTPH-Gx	
410-14827-2	MW-504	Total/NA	Water	NWTPH-Gx	
410-14827-3	MW-511	Total/NA	Water	NWTPH-Gx	
410-14827-4	MW-512	Total/NA	Water	NWTPH-Gx	
410-14827-5	MW-513	Total/NA	Water	NWTPH-Gx	
410-14827-6	MW-520	Total/NA	Water	NWTPH-Gx	
410-14827-7	MW-521	Total/NA	Water	NWTPH-Gx	
410-14827-8	Dup-2	Total/NA	Water	NWTPH-Gx	
410-14827-9	Dup-3	Total/NA	Water	NWTPH-Gx	
410-14827-10	Trip Blank	Total/NA	Water	NWTPH-Gx	
410-14827-11	MW-514	Total/NA	Water	NWTPH-Gx	
MB 410-49075/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-49075/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 410-49075/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-14827-5 MS	MW-513	Total/NA	Water	NWTPH-Gx	
410-14827-5 MSD	MW-513	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 48035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	3510C	
410-14827-2	MW-504	Total/NA	Water	3510C	
410-14827-3	MW-511	Total/NA	Water	3510C	
410-14827-4	MW-512	Total/NA	Water	3510C	
410-14827-5	MW-513	Total/NA	Water	3510C	
410-14827-6	MW-520	Total/NA	Water	3510C	
410-14827-7	MW-521	Total/NA	Water	3510C	
410-14827-8	Dup-2	Total/NA	Water	3510C	
410-14827-9	Dup-3	Total/NA	Water	3510C	
410-14827-11	MW-514	Total/NA	Water	3510C	
MB 410-48035/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-48035/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-14827-5 MS	MW-513	Total/NA	Water	3510C	
410-14827-5 MSD	MW-513	Total/NA	Water	3510C	
410-14827-1 DU	MW-101	Total/NA	Water	3510C	

Cleanup Batch: 49659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	3630C	48035
410-14827-2	MW-504	Total/NA	Water	3630C	48035
410-14827-3	MW-511	Total/NA	Water	3630C	48035
410-14827-4	MW-512	Total/NA	Water	3630C	48035
410-14827-5	MW-513	Total/NA	Water	3630C	48035
410-14827-6	MW-520	Total/NA	Water	3630C	48035
410-14827-7	MW-521	Total/NA	Water	3630C	48035

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

GC Semi VOA (Continued)

Cleanup Batch: 49659 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-8	Dup-2	Total/NA	Water	3630C	48035
410-14827-9	Dup-3	Total/NA	Water	3630C	48035
410-14827-11	MW-514	Total/NA	Water	3630C	48035
MB 410-48035/1-B	Method Blank	Total/NA	Water	3630C	48035
LCS 410-48035/2-B	Lab Control Sample	Total/NA	Water	3630C	48035
410-14827-5 MS	MW-513	Total/NA	Water	3630C	48035
410-14827-5 MSD	MW-513	Total/NA	Water	3630C	48035
410-14827-1 DU	MW-101	Total/NA	Water	3630C	48035

Analysis Batch: 50076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14827-1	MW-101	Total/NA	Water	NWTPH-Dx	49659
410-14827-2	MW-504	Total/NA	Water	NWTPH-Dx	49659
410-14827-3	MW-511	Total/NA	Water	NWTPH-Dx	49659
410-14827-4	MW-512	Total/NA	Water	NWTPH-Dx	49659
410-14827-5	MW-513	Total/NA	Water	NWTPH-Dx	49659
410-14827-6	MW-520	Total/NA	Water	NWTPH-Dx	49659
410-14827-7	MW-521	Total/NA	Water	NWTPH-Dx	49659
410-14827-8	Dup-2	Total/NA	Water	NWTPH-Dx	49659
410-14827-9	Dup-3	Total/NA	Water	NWTPH-Dx	49659
410-14827-11	MW-514	Total/NA	Water	NWTPH-Dx	49659
MB 410-48035/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	49659
LCS 410-48035/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	49659
410-14827-5 MS	MW-513	Total/NA	Water	NWTPH-Dx	49659
410-14827-5 MSD	MW-513	Total/NA	Water	NWTPH-Dx	49659
410-14827-1 DU	MW-101	Total/NA	Water	NWTPH-Dx	49659

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-101

Lab Sample ID: 410-14827-1

Date Collected: 09/22/20 11:20

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 00:08	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 12:38	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 03:00	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 06:28	YHQ2	ELLE

Client Sample ID: MW-504

Lab Sample ID: 410-14827-2

Date Collected: 09/22/20 13:00

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 00:30	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 13:06	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 03:27	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 07:13	YHQ2	ELLE

Client Sample ID: MW-511

Lab Sample ID: 410-14827-3

Date Collected: 09/22/20 09:10

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 00:52	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 13:35	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 04:21	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 07:36	YHQ2	ELLE

Client Sample ID: MW-512

Lab Sample ID: 410-14827-4

Date Collected: 09/22/20 09:51

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 01:14	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 14:03	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 04:49	UMDJ	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: MW-512

Lab Sample ID: 410-14827-4

Date Collected: 09/22/20 09:51

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 07:59	YHQ2	ELLE

Client Sample ID: MW-513

Lab Sample ID: 410-14827-5

Date Collected: 09/22/20 09:52

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 01:37	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 14:31	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 05:16	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 08:21	YHQ2	ELLE

Client Sample ID: MW-520

Lab Sample ID: 410-14827-6

Date Collected: 09/22/20 10:30

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 02:43	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 15:56	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 06:37	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 09:52	YHQ2	ELLE

Client Sample ID: MW-521

Lab Sample ID: 410-14827-7

Date Collected: 09/22/20 11:45

Matrix: Water

Date Received: 09/23/20 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 03:05	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 16:25	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 07:04	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 10:15	YHQ2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Client Sample ID: Dup-2
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 03:27	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 16:53	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 07:31	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 10:37	YHQ2	ELLE

Client Sample ID: Dup-3
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 03:49	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 17:21	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 07:58	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 11:00	YHQ2	ELLE

Client Sample ID: Trip Blank
Date Collected: 09/22/20 00:00
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/29/20 23:46	UJML	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 02:32	UMDJ	ELLE

Client Sample ID: MW-514
Date Collected: 09/22/20 11:22
Date Received: 09/23/20 10:45

Lab Sample ID: 410-14827-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	49118	09/30/20 04:11	UJML	ELLE
Total/NA	Prep	3510C			48269	09/28/20 08:45	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	48711	09/29/20 17:50	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49075	09/30/20 08:25	UMDJ	ELLE
Total/NA	Prep	3510C			48035	09/26/20 06:01	UKQ8	ELLE
Total/NA	Cleanup	3630C			49659	10/01/20 00:48	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50076	10/02/20 11:23	YHQ2	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	Benzene
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14827-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-14827-1	MW-101	Water	09/22/20 11:20	09/23/20 10:45	
410-14827-2	MW-504	Water	09/22/20 13:00	09/23/20 10:45	
410-14827-3	MW-511	Water	09/22/20 09:10	09/23/20 10:45	
410-14827-4	MW-512	Water	09/22/20 09:51	09/23/20 10:45	
410-14827-5	MW-513	Water	09/22/20 09:52	09/23/20 10:45	
410-14827-6	MW-520	Water	09/22/20 10:30	09/23/20 10:45	
410-14827-7	MW-521	Water	09/22/20 11:45	09/23/20 10:45	
410-14827-8	Dup-2	Water	09/22/20 00:00	09/23/20 10:45	
410-14827-9	Dup-3	Water	09/22/20 00:00	09/23/20 10:45	
410-14827-10	Trip Blank	Water	09/22/20 00:00	09/23/20 10:45	
410-14827-11	MW-514	Water	09/22/20 11:22	09/23/20 10:45	



Lancaster Laboratories

Acct. # 410-14827 Chain of Custody

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mple #
d with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks																																																							
Facility # Edmonds Terminal		WBS		Sediment <input type="checkbox"/>		Ground <input checked="" type="checkbox"/>		Surface <input type="checkbox"/>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">8021 <input type="checkbox"/></td> <td colspan="2">8260 <input checked="" type="checkbox"/></td> <td colspan="2">Naphth <input type="checkbox"/></td> <td colspan="2">Oxygenates</td> <td colspan="2">NWTPH GX</td> <td colspan="2">NWTPH DX <input checked="" type="checkbox"/></td> <td colspan="2">Silica Gel Cleanup <input checked="" type="checkbox"/></td> <td colspan="2">Lead Total <input type="checkbox"/></td> <td colspan="2">Diss. <input type="checkbox"/></td> <td colspan="2">Method</td> <td colspan="2">WAVPH <input type="checkbox"/></td> <td colspan="2">WAEPH <input type="checkbox"/></td> <td colspan="2">CPAHS 8270 SIM</td> </tr> <tr> <td colspan="2">8260 full scan</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>										8021 <input type="checkbox"/>		8260 <input checked="" type="checkbox"/>		Naphth <input type="checkbox"/>		Oxygenates		NWTPH GX		NWTPH DX <input checked="" type="checkbox"/>		Silica Gel Cleanup <input checked="" type="checkbox"/>		Lead Total <input type="checkbox"/>		Diss. <input type="checkbox"/>		Method		WAVPH <input type="checkbox"/>		WAEPH <input type="checkbox"/>		CPAHS 8270 SIM		8260 full scan																										SCR #: _____	
8021 <input type="checkbox"/>		8260 <input checked="" type="checkbox"/>		Naphth <input type="checkbox"/>		Oxygenates		NWTPH GX												NWTPH DX <input checked="" type="checkbox"/>		Silica Gel Cleanup <input checked="" type="checkbox"/>		Lead Total <input type="checkbox"/>		Diss. <input type="checkbox"/>		Method		WAVPH <input type="checkbox"/>		WAEPH <input type="checkbox"/>		CPAHS 8270 SIM																																							
8260 full scan																																																																									
Site Address 11720 WNOCO Road, Edmonds WA				Potable <input type="checkbox"/>		Water NPDES <input type="checkbox"/>		Oil <input type="checkbox"/>												Air <input type="checkbox"/>		Total Number of Containers																																																			
Chevron PM KIM JOLITZ		Lead Consultant Arcadis		Soil <input type="checkbox"/>		Water <input type="checkbox"/>		Oil <input type="checkbox"/>		Air <input type="checkbox"/>		Total Number of Containers																																																													
Consultant/Office 1100 Olive Way, Suite 400, Seattle, WA 98101				Composite <input type="checkbox"/>		Water <input type="checkbox"/>		Oil <input type="checkbox"/>		Air <input type="checkbox"/>		Total Number of Containers																																																													
Consultant Project Mgr. SAM MILES				Soil <input type="checkbox"/>		Water <input type="checkbox"/>		Oil <input type="checkbox"/>		Air <input type="checkbox"/>		Total Number of Containers																																																													
Consultant Phone #				Soil <input type="checkbox"/>		Water <input type="checkbox"/>		Oil <input type="checkbox"/>		Air <input type="checkbox"/>		Total Number of Containers																																																													
Sampler DSG, RB, JV				Soil <input type="checkbox"/>		Water <input type="checkbox"/>		Oil <input type="checkbox"/>		Air <input type="checkbox"/>		Total Number of Containers																																																													
2 Sample Identification		3 Collected		3 Grab	3 Composite	4 Matrix				5 Analyses Requested										6 Remarks																																																					
		Date	Time			Soil	Water	Oil	Air	Total Number of Containers	8021	8260	Naphth	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead Total	Diss.			Method	WAVPH	WAEPH																																																	
MW- 101 101		9-22-20	1120	X			X			10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Use standard SGC																																																
MW-504			1300	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-511			0910	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-512			0951	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-513			0952	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-520			1030	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-521			1145	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
Dup-2			-	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
Dup-3			-	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
Trip Blank			-	X			X			6	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-513 MS			1002	X			X			10	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
MW-513 MSD			1012	X			X			10	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																	
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by		Date		Time		Received by		Date		Time		9																																																									
Standard 5 day 4 day				Dan S. [Signature]		9-22-20																																																																			
72 hour 48 hour 24 hour				Relinquished by		Date		Time		Received by		Date		Time																																																											
8 Data Package Options (please circle if required)				Relinquished by Commerical Carrier		Date		Time		Received by		Date		Time																																																											
Type I - Full Type VI (Raw Data)				UPS FedEx X Other		9/24/2020		1412		[Signature]		9/24/2020		1412																																																											
				Temperature Upon Receipt		1.7 °C				Custody Seals Intact?		Yes		No																																																											

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-14827-1

Login Number: 14827

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	False	Refer to Job Narrative for details.
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	N/A	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-14827-1

Login Number: 14827

List Source: Eurofins Lancaster Laboratories Env

List Number: 2

Creator: Rivera-Santa, Julissa

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-14968-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
10/15/2020 12:30:09 PM
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Dana Kauffman
Report Production Representative
10/15/2020 12:30:09 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate recovery exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Job ID: 410-14968-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-14968-1

Receipt

The samples were received on 9/24/2020 10:48 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 0.9° C.

GC/MS VOA

Method 8260D: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-143 (410-14968-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: Surrogate recovery for the following samples were outside of acceptance limits: MW-126 (410-14968-3) and DUP-4 (410-14968-11). There was insufficient sample to perform a re-extraction; therefore, the data have been reported.

Method NWTPH-Dx: The sample duplicate (DUP) precision for preparation batch 410-48036 and 410-50134 and analytical batch 410-50449 was outside control limits. There is no remaining volume to perform a re-extract.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method 3510C: The following sample(s) was provided to the laboratory with a significantly different initial weight than that required by the reference method: 3510C_LVI/3630C_LVI/NWTPH_Dx. The method requires 250 mL. The amount provided was below the range. The amount of sample available during this re-work was not sufficient to provide a DU for the BKG.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-8R

Lab Sample ID: 410-14968-1

No Detections.

Client Sample ID: MW-20R

Lab Sample ID: 410-14968-2

No Detections.

Client Sample ID: MW-126

Lab Sample ID: 410-14968-3

No Detections.

Client Sample ID: MW-143

Lab Sample ID: 410-14968-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	24	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-515

Lab Sample ID: 410-14968-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	25	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-516

Lab Sample ID: 410-14968-6

No Detections.

Client Sample ID: MW-517

Lab Sample ID: 410-14968-7

No Detections.

Client Sample ID: MW-518

Lab Sample ID: 410-14968-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	590		250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-519

Lab Sample ID: 410-14968-9

No Detections.

Client Sample ID: MW-522

Lab Sample ID: 410-14968-10

No Detections.

Client Sample ID: DUP-4

Lab Sample ID: 410-14968-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	560		250	19	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 410-14968-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-8R
Date Collected: 09/23/20 12:52
Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-1
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 13:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					10/02/20 13:46	1
Dibromofluoromethane (Surr)	102		80 - 120					10/02/20 13:46	1
4-Bromofluorobenzene (Surr)	94		80 - 120					10/02/20 13:46	1
Toluene-d8 (Surr)	98		80 - 120					10/02/20 13:46	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Chrysene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		09/30/20 09:30	10/01/20 13:55	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 13:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	56		10 - 138				09/30/20 09:30	10/01/20 13:55	1
1-Methylnaphthalene-d10 (Surr)	77		15 - 121				09/30/20 09:30	10/01/20 13:55	1
Fluoranthene-d10 (Surr)	87		34 - 125				09/30/20 09:30	10/01/20 13:55	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 00:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					09/30/20 00:30	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:06	10/03/20 10:24	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 10:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/26/20 06:06	10/03/20 10:24	1
o-terphenyl (Surr)	70		50 - 150				09/26/20 06:06	10/03/20 10:24	1

Client Sample ID: MW-20R
Date Collected: 09/23/20 11:02
Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-2
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 14:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					10/02/20 14:07	1
Dibromofluoromethane (Surr)	102		80 - 120					10/02/20 14:07	1
4-Bromofluorobenzene (Surr)	94		80 - 120					10/02/20 14:07	1
Toluene-d8 (Surr)	99		80 - 120					10/02/20 14:07	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-20R

Lab Sample ID: 410-14968-2

Date Collected: 09/23/20 11:02

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1
Chrysene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		09/30/20 09:30	10/01/20 14:23	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	19		10 - 138	09/30/20 09:30	10/01/20 14:23	1
1-Methylnaphthalene-d10 (Surr)	79		15 - 121	09/30/20 09:30	10/01/20 14:23	1
Fluoranthene-d10 (Surr)	95		34 - 125	09/30/20 09:30	10/01/20 14:23	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 00:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/30/20 00:57	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		09/26/20 06:06	10/03/20 11:10	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 11:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 11:10	1
o-terphenyl (Surr)	56		50 - 150	09/26/20 06:06	10/03/20 11:10	1

Client Sample ID: MW-126

Lab Sample ID: 410-14968-3

Date Collected: 09/23/20 12:40

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/02/20 14:30	1
Dibromofluoromethane (Surr)	103		80 - 120		10/02/20 14:30	1
4-Bromofluorobenzene (Surr)	94		80 - 120		10/02/20 14:30	1
Toluene-d8 (Surr)	98		80 - 120		10/02/20 14:30	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1
Chrysene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1
Dibenz(a,h)anthracene	ND		0.080	0.023	ug/L		09/30/20 09:30	10/01/20 14:51	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		09/30/20 09:30	10/01/20 14:51	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-126

Lab Sample ID: 410-14968-3

Date Collected: 09/23/20 12:40

Matrix: Water

Date Received: 09/24/20 10:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	53		10 - 138	09/30/20 09:30	10/01/20 14:51	1
1-Methylnaphthalene-d10 (Surr)	70		15 - 121	09/30/20 09:30	10/01/20 14:51	1
Fluoranthene-d10 (Surr)	81		34 - 125	09/30/20 09:30	10/01/20 14:51	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		09/30/20 01:24	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		09/26/20 06:06	10/03/20 11:55	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 11:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 11:55	1
o-terphenyl (Surr)	46	X	50 - 150	09/26/20 06:06	10/03/20 11:55	1

Client Sample ID: MW-143

Lab Sample ID: 410-14968-4

Date Collected: 09/23/20 13:20

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	1.0	ug/L			10/02/20 14:52	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/02/20 14:52	5
Dibromofluoromethane (Surr)	103		80 - 120		10/02/20 14:52	5
4-Bromofluorobenzene (Surr)	94		80 - 120		10/02/20 14:52	5
Toluene-d8 (Surr)	98		80 - 120		10/02/20 14:52	5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1
Chrysene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		09/30/20 09:30	10/01/20 15:19	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	73		10 - 138	09/30/20 09:30	10/01/20 15:19	1
1-Methylnaphthalene-d10 (Surr)	74		15 - 121	09/30/20 09:30	10/01/20 15:19	1
Fluoranthene-d10 (Surr)	104		34 - 125	09/30/20 09:30	10/01/20 15:19	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	24	J	250	19	ug/L			09/30/20 01:51	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-143

Lab Sample ID: 410-14968-4

Date Collected: 09/23/20 13:20

Matrix: Water

Date Received: 09/24/20 10:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	87		50 - 150		09/30/20 01:51	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:06	10/03/20 12:18	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/26/20 06:06	10/03/20 12:18	1
<i>o-terphenyl (Surr)</i>	68		50 - 150	09/26/20 06:06	10/03/20 12:18	1

Client Sample ID: MW-515

Lab Sample ID: 410-14968-5

Date Collected: 09/23/20 09:00

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		80 - 120		10/02/20 15:14	1
<i>Dibromofluoromethane (Surr)</i>	103		80 - 120		10/02/20 15:14	1
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120		10/02/20 15:14	1
<i>Toluene-d8 (Surr)</i>	99		80 - 120		10/02/20 15:14	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1
Chrysene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		09/30/20 09:30	10/01/20 15:48	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		09/30/20 09:30	10/01/20 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	15		10 - 138	09/30/20 09:30	10/01/20 15:48	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	83		15 - 121	09/30/20 09:30	10/01/20 15:48	1
<i>Fluoranthene-d10 (Surr)</i>	103		34 - 125	09/30/20 09:30	10/01/20 15:48	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	25	J	250	19	ug/L			09/30/20 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	87		50 - 150		09/30/20 02:19	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:06	10/03/20 12:40	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 12:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-515

Date Collected: 09/23/20 09:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 12:40	1
<i>o</i> -terphenyl (Surr)	60		50 - 150	09/26/20 06:06	10/03/20 12:40	1

Client Sample ID: MW-516

Date Collected: 09/23/20 10:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-6

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 15:36	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	103		80 - 120	10/02/20 15:36	10/02/20 15:36	1			
Dibromofluoromethane (Surr)	103		80 - 120	10/02/20 15:36	10/02/20 15:36	1			
4-Bromofluorobenzene (Surr)	95		80 - 120	10/02/20 15:36	10/02/20 15:36	1			
Toluene-d8 (Surr)	99		80 - 120	10/02/20 15:36	10/02/20 15:36	1			

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Chrysene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		09/30/20 09:30	10/01/20 16:16	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		09/30/20 09:30	10/01/20 16:16	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Benzo(a)pyrene-d12 (Surr)	11		10 - 138	09/30/20 09:30	10/01/20 16:16	1			
1-Methylnaphthalene-d10 (Surr)	68		15 - 121	09/30/20 09:30	10/01/20 16:16	1			
Fluoranthene-d10 (Surr)	85		34 - 125	09/30/20 09:30	10/01/20 16:16	1			

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 02:46	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	83		50 - 150	09/30/20 02:46	09/30/20 02:46	1			

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		09/26/20 06:06	10/03/20 13:26	1
C24-C40	ND		260	100	ug/L		09/26/20 06:06	10/03/20 13:26	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 13:26	1			
<i>o</i> -terphenyl (Surr)	64		50 - 150	09/26/20 06:06	10/03/20 13:26	1			

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-517

Lab Sample ID: 410-14968-7

Date Collected: 09/23/20 11:15

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 15:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					10/02/20 15:58	1
Dibromofluoromethane (Surr)	104		80 - 120					10/02/20 15:58	1
4-Bromofluorobenzene (Surr)	95		80 - 120					10/02/20 15:58	1
Toluene-d8 (Surr)	98		80 - 120					10/02/20 15:58	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Chrysene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		09/30/20 09:30	10/01/20 16:45	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 16:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	12		10 - 138				09/30/20 09:30	10/01/20 16:45	1
1-Methylnaphthalene-d10 (Surr)	80		15 - 121				09/30/20 09:30	10/01/20 16:45	1
Fluoranthene-d10 (Surr)	94		34 - 125				09/30/20 09:30	10/01/20 16:45	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 03:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					09/30/20 03:13	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:06	10/03/20 13:48	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 13:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				09/26/20 06:06	10/03/20 13:48	1
o-terphenyl (Surr)	56		50 - 150				09/26/20 06:06	10/03/20 13:48	1

Client Sample ID: MW-518

Lab Sample ID: 410-14968-8

Date Collected: 09/23/20 09:42

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 16:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					10/02/20 16:20	1
Dibromofluoromethane (Surr)	103		80 - 120					10/02/20 16:20	1
4-Bromofluorobenzene (Surr)	97		80 - 120					10/02/20 16:20	1
Toluene-d8 (Surr)	96		80 - 120					10/02/20 16:20	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-518

Lab Sample ID: 410-14968-8

Date Collected: 09/23/20 09:42

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1
Chrysene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		09/30/20 09:30	10/01/20 17:13	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	34		10 - 138	09/30/20 09:30	10/01/20 17:13	1
1-Methylnaphthalene-d10 (Surr)	84		15 - 121	09/30/20 09:30	10/01/20 17:13	1
Fluoranthene-d10 (Surr)	93		34 - 125	09/30/20 09:30	10/01/20 17:13	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	590		250	19	ug/L			09/30/20 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	82		50 - 150		09/30/20 03:41	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		09/26/20 06:06	10/03/20 14:11	1
C24-C40	ND		270	110	ug/L		09/26/20 06:06	10/03/20 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 14:11	1
o-terphenyl (Surr)	58		50 - 150	09/26/20 06:06	10/03/20 14:11	1

Client Sample ID: MW-519

Lab Sample ID: 410-14968-9

Date Collected: 09/23/20 12:00

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/02/20 16:42	1
Dibromofluoromethane (Surr)	103		80 - 120		10/02/20 16:42	1
4-Bromofluorobenzene (Surr)	95		80 - 120		10/02/20 16:42	1
Toluene-d8 (Surr)	99		80 - 120		10/02/20 16:42	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1
Chrysene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		09/30/20 09:30	10/01/20 17:41	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		09/30/20 09:30	10/01/20 17:41	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-519

Lab Sample ID: 410-14968-9

Date Collected: 09/23/20 12:00

Matrix: Water

Date Received: 09/24/20 10:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	43		10 - 138	09/30/20 09:30	10/01/20 17:41	1
1-Methylnaphthalene-d10 (Surr)	81		15 - 121	09/30/20 09:30	10/01/20 17:41	1
Fluoranthene-d10 (Surr)	99		34 - 125	09/30/20 09:30	10/01/20 17:41	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 04:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		09/30/20 04:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/26/20 06:06	10/03/20 14:34	1
C24-C40	ND		260	100	ug/L		09/26/20 06:06	10/03/20 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 14:34	1
o-terphenyl (Surr)	50		50 - 150	09/26/20 06:06	10/03/20 14:34	1

Client Sample ID: MW-522

Lab Sample ID: 410-14968-10

Date Collected: 09/23/20 11:52

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		10/02/20 17:04	1
Dibromofluoromethane (Surr)	103		80 - 120		10/02/20 17:04	1
4-Bromofluorobenzene (Surr)	95		80 - 120		10/02/20 17:04	1
Toluene-d8 (Surr)	99		80 - 120		10/02/20 17:04	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1
Chrysene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		09/30/20 09:30	10/01/20 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		09/30/20 09:30	10/01/20 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	48		10 - 138	09/30/20 09:30	10/01/20 18:10	1
1-Methylnaphthalene-d10 (Surr)	73		15 - 121	09/30/20 09:30	10/01/20 18:10	1
Fluoranthene-d10 (Surr)	85		34 - 125	09/30/20 09:30	10/01/20 18:10	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/30/20 05:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-522

Lab Sample ID: 410-14968-10

Date Collected: 09/23/20 11:52

Matrix: Water

Date Received: 09/24/20 10:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		09/30/20 05:02	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/26/20 06:06	10/03/20 14:56	1
C24-C40	ND		260	100	ug/L		09/26/20 06:06	10/03/20 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	09/26/20 06:06	10/03/20 14:56	1
o-terphenyl (Surr)	67		50 - 150	09/26/20 06:06	10/03/20 14:56	1

Client Sample ID: DUP-4

Lab Sample ID: 410-14968-11

Date Collected: 09/23/20 00:00

Matrix: Water

Date Received: 09/24/20 10:48

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/02/20 17:26	1
Dibromofluoromethane (Surr)	102		80 - 120		10/02/20 17:26	1
4-Bromofluorobenzene (Surr)	97		80 - 120		10/02/20 17:26	1
Toluene-d8 (Surr)	97		80 - 120		10/02/20 17:26	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1
Chrysene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		09/30/20 09:30	10/01/20 18:38	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		09/30/20 09:30	10/01/20 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	32		10 - 138	09/30/20 09:30	10/01/20 18:38	1
1-Methylnaphthalene-d10 (Surr)	89		15 - 121	09/30/20 09:30	10/01/20 18:38	1
Fluoranthene-d10 (Surr)	104		34 - 125	09/30/20 09:30	10/01/20 18:38	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	560		250	19	ug/L			09/30/20 05:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		09/30/20 05:30	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		09/26/20 06:06	10/03/20 15:19	1
C24-C40	ND		260	100	ug/L		09/26/20 06:06	10/03/20 15:19	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: DUP-4

Date Collected: 09/23/20 00:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-11

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	09/26/20 06:06	10/03/20 15:19	1
<i>o- terphenyl (Surr)</i>	45	X	50 - 150	09/26/20 06:06	10/03/20 15:19	1

Client Sample ID: TRIP BLANK

Date Collected: 09/23/20 00:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-12

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 12:39	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		80 - 120		10/02/20 12:39	1			
<i>Dibromofluoromethane (Surr)</i>	102		80 - 120		10/02/20 12:39	1			
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120		10/02/20 12:39	1			
<i>Toluene-d8 (Surr)</i>	99		80 - 120		10/02/20 12:39	1			

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/29/20 23:35	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150		09/29/20 23:35	1			

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-14968-1	MW-8R	103	102	94	98
410-14968-2	MW-20R	103	102	94	99
410-14968-3	MW-126	104	103	94	98
410-14968-4	MW-143	104	103	94	98
410-14968-5	MW-515	104	103	95	99
410-14968-6	MW-516	103	103	95	99
410-14968-7	MW-517	104	104	95	98
410-14968-8	MW-518	104	103	97	96
410-14968-9	MW-519	104	103	95	99
410-14968-10	MW-522	102	103	95	99
410-14968-11	DUP-4	103	102	97	97
410-14968-12	TRIP BLANK	102	102	95	99
LCS 410-50258/4	Lab Control Sample	101	100	98	100
LCSD 410-50258/5	Lab Control Sample Dup	101	100	99	100
MB 410-50258/7	Method Blank	103	101	96	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-138)	MNPd10 (15-121)	FLN10 (34-125)
410-14968-1	MW-8R	56	77	87
410-14968-2	MW-20R	19	79	95
410-14968-3	MW-126	53	70	81
410-14968-4	MW-143	73	74	104
410-14968-5	MW-515	15	83	103
410-14968-6	MW-516	11	68	85
410-14968-7	MW-517	12	80	94
410-14968-8	MW-518	34	84	93
410-14968-9	MW-519	43	81	99
410-14968-10	MW-522	48	73	85
410-14968-11	DUP-4	32	89	104
LCS 410-49226/2-A	Lab Control Sample	95	80	102
MB 410-49226/1-A	Method Blank	80	95	102

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-14968-1	MW-8R	83
410-14968-2	MW-20R	86
410-14968-3	MW-126	87
410-14968-4	MW-143	87
410-14968-5	MW-515	87
410-14968-6	MW-516	83
410-14968-7	MW-517	85
410-14968-8	MW-518	82
410-14968-9	MW-519	85
410-14968-10	MW-522	85
410-14968-11	DUP-4	86
410-14968-12	TRIP BLANK	85
LCS 410-49078/5	Lab Control Sample	83
LCSD 410-49078/6	Lab Control Sample Dup	85
MB 410-49078/4	Method Blank	85

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-14968-1	MW-8R	0.3	70
410-14968-1 DU	MW-8R	0.3	34 X
410-14968-2	MW-20R	0.3	56
410-14968-2 DU	MW-20R	0.3	23 X
410-14968-3	MW-126	0.3	46 X
410-14968-4	MW-143	0.3	68
410-14968-5	MW-515	0.3	60
410-14968-6	MW-516	0.3	64
410-14968-7	MW-517	0.3	56
410-14968-8	MW-518	0.3	58
410-14968-9	MW-519	0.3	50
410-14968-10	MW-522	0.3	67
410-14968-11	DUP-4	0.3	45 X
LCS 410-48036/2-B	Lab Control Sample	0.4	68
LCSD 410-48036/3-B	Lab Control Sample Dup	0.4	66
MB 410-48036/1-B	Method Blank	0.3	68

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-50258/7
Matrix: Water
Analysis Batch: 50258

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			10/02/20 12:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/02/20 12:17	1
Dibromofluoromethane (Surr)	101		80 - 120		10/02/20 12:17	1
4-Bromofluorobenzene (Surr)	96		80 - 120		10/02/20 12:17	1
Toluene-d8 (Surr)	99		80 - 120		10/02/20 12:17	1

Lab Sample ID: LCS 410-50258/4
Matrix: Water
Analysis Batch: 50258

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.6		ug/L		103	80 - 120
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120
Toluene	20.0	20.4		ug/L		102	80 - 120
Xylenes, Total	60.0	62.6		ug/L		104	80 - 120
Methyl tertiary butyl ether	20.0	19.2		ug/L		96	69 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	98		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: LCSD 410-50258/5
Matrix: Water
Analysis Batch: 50258

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.6		ug/L		103	80 - 120	0	30
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120	0	30
Toluene	20.0	20.5		ug/L		102	80 - 120	0	30
Xylenes, Total	60.0	63.1		ug/L		105	80 - 120	1	30
Methyl tertiary butyl ether	20.0	19.5		ug/L		98	69 - 122	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	100		80 - 120

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-49226/1-A
Matrix: Water
Analysis Batch: 49747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49226

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1
Chrysene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		09/30/20 09:30	10/01/20 11:33	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		09/30/20 09:30	10/01/20 11:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	80		10 - 138	09/30/20 09:30	10/01/20 11:33	1
1-Methylnaphthalene-d10 (Surr)	95		15 - 121	09/30/20 09:30	10/01/20 11:33	1
Fluoranthene-d10 (Surr)	102		34 - 125	09/30/20 09:30	10/01/20 11:33	1

Lab Sample ID: LCS 410-49226/2-A
Matrix: Water
Analysis Batch: 49747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.972		ug/L		97	61 - 117
Benzo[a]pyrene	1.00	1.02		ug/L		102	63 - 135
Benzo[b]fluoranthene	1.00	0.927		ug/L		92	66 - 138
Benzo[k]fluoranthene	1.00	1.11		ug/L		111	58 - 142
Chrysene	1.00	1.06		ug/L		105	61 - 117
Dibenz(a,h)anthracene	1.00	0.978		ug/L		97	51 - 139
Indeno[1,2,3-cd]pyrene	1.00	0.842		ug/L		84	56 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	95		10 - 138
1-Methylnaphthalene-d10 (Surr)	80		15 - 121
Fluoranthene-d10 (Surr)	102		34 - 125

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-49078/4
Matrix: Water
Analysis Batch: 49078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			09/29/20 22:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		09/29/20 22:13	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-49078/5
Matrix: Water
Analysis Batch: 49078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1080		ug/L		99	64 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	83		50 - 150				

Lab Sample ID: LCSD 410-49078/6
Matrix: Water
Analysis Batch: 49078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1120		ug/L		102	64 - 131	4	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	85		50 - 150						

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-48036/1-B
Matrix: Water
Analysis Batch: 50449

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48036

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		09/26/20 06:06	10/03/20 09:16	1
C24-C40	ND		250	100	ug/L		09/26/20 06:06	10/03/20 09:16	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				09/26/20 06:06	10/03/20 09:16	1
<i>o-terphenyl (Surr)</i>	68		50 - 150				09/26/20 06:06	10/03/20 09:16	1

Lab Sample ID: LCS 410-48036/2-B
Matrix: Water
Analysis Batch: 50449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48036

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	600	193		ug/L		32	10 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1				
<i>o-terphenyl (Surr)</i>	68		50 - 150				

Lab Sample ID: LCSD 410-48036/3-B
Matrix: Water
Analysis Batch: 50449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48036

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	600	164		ug/L		27	10 - 115	16	20

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-48036/3-B
Matrix: Water
Analysis Batch: 50449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48036

<u>Surrogate</u>	<u>LCSD %Recovery</u>	<u>LCSD Qualifier</u>	<u>Limits</u>
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	66		50 - 150

Lab Sample ID: 410-14968-1 DU
Matrix: Water
Analysis Batch: 50449

Client Sample ID: MW-8R
Prep Type: Total/NA
Prep Batch: 48036

<u>Analyte</u>	<u>Sample Result</u>	<u>Sample Qualifier</u>	<u>DU Result</u>	<u>DU Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>RPD</u>	<u>RPD Limit</u>
C12-C24	ND		196		ug/L			20
C24-C40	ND		366		ug/L			20

<u>Surrogate</u>	<u>DU %Recovery</u>	<u>DU Qualifier</u>	<u>Limits</u>
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	34	X	50 - 150

Lab Sample ID: 410-14968-2 DU
Matrix: Water
Analysis Batch: 50449

Client Sample ID: MW-20R
Prep Type: Total/NA
Prep Batch: 48036

<u>Analyte</u>	<u>Sample Result</u>	<u>Sample Qualifier</u>	<u>DU Result</u>	<u>DU Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>RPD</u>	<u>RPD Limit</u>
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20

<u>Surrogate</u>	<u>DU %Recovery</u>	<u>DU Qualifier</u>	<u>Limits</u>
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	23	X	50 - 150

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

GC/MS VOA

Analysis Batch: 50258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	8260D	
410-14968-2	MW-20R	Total/NA	Water	8260D	
410-14968-3	MW-126	Total/NA	Water	8260D	
410-14968-4	MW-143	Total/NA	Water	8260D	
410-14968-5	MW-515	Total/NA	Water	8260D	
410-14968-6	MW-516	Total/NA	Water	8260D	
410-14968-7	MW-517	Total/NA	Water	8260D	
410-14968-8	MW-518	Total/NA	Water	8260D	
410-14968-9	MW-519	Total/NA	Water	8260D	
410-14968-10	MW-522	Total/NA	Water	8260D	
410-14968-11	DUP-4	Total/NA	Water	8260D	
410-14968-12	TRIP BLANK	Total/NA	Water	8260D	
MB 410-50258/7	Method Blank	Total/NA	Water	8260D	
LCS 410-50258/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-50258/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 49226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	3510C	
410-14968-2	MW-20R	Total/NA	Water	3510C	
410-14968-3	MW-126	Total/NA	Water	3510C	
410-14968-4	MW-143	Total/NA	Water	3510C	
410-14968-5	MW-515	Total/NA	Water	3510C	
410-14968-6	MW-516	Total/NA	Water	3510C	
410-14968-7	MW-517	Total/NA	Water	3510C	
410-14968-8	MW-518	Total/NA	Water	3510C	
410-14968-9	MW-519	Total/NA	Water	3510C	
410-14968-10	MW-522	Total/NA	Water	3510C	
410-14968-11	DUP-4	Total/NA	Water	3510C	
MB 410-49226/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-49226/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 49747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	8270D SIM	49226
410-14968-2	MW-20R	Total/NA	Water	8270D SIM	49226
410-14968-3	MW-126	Total/NA	Water	8270D SIM	49226
410-14968-4	MW-143	Total/NA	Water	8270D SIM	49226
410-14968-5	MW-515	Total/NA	Water	8270D SIM	49226
410-14968-6	MW-516	Total/NA	Water	8270D SIM	49226
410-14968-7	MW-517	Total/NA	Water	8270D SIM	49226
410-14968-8	MW-518	Total/NA	Water	8270D SIM	49226
410-14968-9	MW-519	Total/NA	Water	8270D SIM	49226
410-14968-10	MW-522	Total/NA	Water	8270D SIM	49226
410-14968-11	DUP-4	Total/NA	Water	8270D SIM	49226
MB 410-49226/1-A	Method Blank	Total/NA	Water	8270D SIM	49226
LCS 410-49226/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	49226

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

GC VOA

Analysis Batch: 49078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	NWTPH-Gx	
410-14968-2	MW-20R	Total/NA	Water	NWTPH-Gx	
410-14968-3	MW-126	Total/NA	Water	NWTPH-Gx	
410-14968-4	MW-143	Total/NA	Water	NWTPH-Gx	
410-14968-5	MW-515	Total/NA	Water	NWTPH-Gx	
410-14968-6	MW-516	Total/NA	Water	NWTPH-Gx	
410-14968-7	MW-517	Total/NA	Water	NWTPH-Gx	
410-14968-8	MW-518	Total/NA	Water	NWTPH-Gx	
410-14968-9	MW-519	Total/NA	Water	NWTPH-Gx	
410-14968-10	MW-522	Total/NA	Water	NWTPH-Gx	
410-14968-11	DUP-4	Total/NA	Water	NWTPH-Gx	
410-14968-12	TRIP BLANK	Total/NA	Water	NWTPH-Gx	
MB 410-49078/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-49078/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-49078/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 48036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	3510C	
410-14968-2	MW-20R	Total/NA	Water	3510C	
410-14968-3	MW-126	Total/NA	Water	3510C	
410-14968-4	MW-143	Total/NA	Water	3510C	
410-14968-5	MW-515	Total/NA	Water	3510C	
410-14968-6	MW-516	Total/NA	Water	3510C	
410-14968-7	MW-517	Total/NA	Water	3510C	
410-14968-8	MW-518	Total/NA	Water	3510C	
410-14968-9	MW-519	Total/NA	Water	3510C	
410-14968-10	MW-522	Total/NA	Water	3510C	
410-14968-11	DUP-4	Total/NA	Water	3510C	
MB 410-48036/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-48036/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-48036/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-14968-1 DU	MW-8R	Total/NA	Water	3510C	
410-14968-2 DU	MW-20R	Total/NA	Water	3510C	

Cleanup Batch: 50134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	3630C	48036
410-14968-2	MW-20R	Total/NA	Water	3630C	48036
410-14968-3	MW-126	Total/NA	Water	3630C	48036
410-14968-4	MW-143	Total/NA	Water	3630C	48036
410-14968-5	MW-515	Total/NA	Water	3630C	48036
410-14968-6	MW-516	Total/NA	Water	3630C	48036
410-14968-7	MW-517	Total/NA	Water	3630C	48036
410-14968-8	MW-518	Total/NA	Water	3630C	48036
410-14968-9	MW-519	Total/NA	Water	3630C	48036
410-14968-10	MW-522	Total/NA	Water	3630C	48036
410-14968-11	DUP-4	Total/NA	Water	3630C	48036
MB 410-48036/1-B	Method Blank	Total/NA	Water	3630C	48036

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

GC Semi VOA (Continued)

Cleanup Batch: 50134 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-48036/2-B	Lab Control Sample	Total/NA	Water	3630C	48036
LCSD 410-48036/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	48036
410-14968-1 DU	MW-8R	Total/NA	Water	3630C	48036
410-14968-2 DU	MW-20R	Total/NA	Water	3630C	48036

Analysis Batch: 50449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-14968-1	MW-8R	Total/NA	Water	NWTPH-Dx	50134
410-14968-2	MW-20R	Total/NA	Water	NWTPH-Dx	50134
410-14968-3	MW-126	Total/NA	Water	NWTPH-Dx	50134
410-14968-4	MW-143	Total/NA	Water	NWTPH-Dx	50134
410-14968-5	MW-515	Total/NA	Water	NWTPH-Dx	50134
410-14968-6	MW-516	Total/NA	Water	NWTPH-Dx	50134
410-14968-7	MW-517	Total/NA	Water	NWTPH-Dx	50134
410-14968-8	MW-518	Total/NA	Water	NWTPH-Dx	50134
410-14968-9	MW-519	Total/NA	Water	NWTPH-Dx	50134
410-14968-10	MW-522	Total/NA	Water	NWTPH-Dx	50134
410-14968-11	DUP-4	Total/NA	Water	NWTPH-Dx	50134
MB 410-48036/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	50134
LCS 410-48036/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	50134
LCSD 410-48036/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	50134
410-14968-1 DU	MW-8R	Total/NA	Water	NWTPH-Dx	50134
410-14968-2 DU	MW-20R	Total/NA	Water	NWTPH-Dx	50134

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-8R

Date Collected: 09/23/20 12:52

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 13:46	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 13:55	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 00:30	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 10:24	KP5X	ELLE

Client Sample ID: MW-20R

Date Collected: 09/23/20 11:02

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 14:07	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 14:23	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 00:57	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 11:10	KP5X	ELLE

Client Sample ID: MW-126

Date Collected: 09/23/20 12:40

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 14:30	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 14:51	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 01:24	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 11:55	KP5X	ELLE

Client Sample ID: MW-143

Date Collected: 09/23/20 13:20

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	50258	10/02/20 14:52	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 15:19	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 01:51	UMDJ	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-143

Lab Sample ID: 410-14968-4

Date Collected: 09/23/20 13:20

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 12:18	KP5X	ELLE

Client Sample ID: MW-515

Lab Sample ID: 410-14968-5

Date Collected: 09/23/20 09:00

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 15:14	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 15:48	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 02:19	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 12:40	KP5X	ELLE

Client Sample ID: MW-516

Lab Sample ID: 410-14968-6

Date Collected: 09/23/20 10:00

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 15:36	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 16:16	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 02:46	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 13:26	KP5X	ELLE

Client Sample ID: MW-517

Lab Sample ID: 410-14968-7

Date Collected: 09/23/20 11:15

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 15:58	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 16:45	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 03:13	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 13:48	KP5X	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: MW-518

Lab Sample ID: 410-14968-8

Date Collected: 09/23/20 09:42

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 16:20	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 17:13	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 03:41	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 14:11	KP5X	ELLE

Client Sample ID: MW-519

Lab Sample ID: 410-14968-9

Date Collected: 09/23/20 12:00

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 16:42	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 17:41	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 04:35	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 14:34	KP5X	ELLE

Client Sample ID: MW-522

Lab Sample ID: 410-14968-10

Date Collected: 09/23/20 11:52

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 17:04	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 18:10	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 05:02	UMDJ	ELLE
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 14:56	KP5X	ELLE

Client Sample ID: DUP-4

Lab Sample ID: 410-14968-11

Date Collected: 09/23/20 00:00

Matrix: Water

Date Received: 09/24/20 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	50258	10/02/20 17:26	K4WN	ELLE
Total/NA	Prep	3510C			49226	09/30/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	49747	10/01/20 18:38	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/30/20 05:30	UMDJ	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Client Sample ID: DUP-4

Date Collected: 09/23/20 00:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-11

Matrix: Water

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	3510C			48036	09/26/20 06:06	UKQ8	ELLE
Total/NA	Cleanup	3630C			50134	10/02/20 03:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	50449	10/03/20 15:19	KP5X	ELLE

Client Sample ID: TRIP BLANK

Date Collected: 09/23/20 00:00

Date Received: 09/24/20 10:48

Lab Sample ID: 410-14968-12

Matrix: Water

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260D		1	50258	10/02/20 12:39	K4WN	ELLE
Total/NA	Analysis	NWTPH-Gx		1	49078	09/29/20 23:35	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-14968-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-14968-1	MW-8R	Water	09/23/20 12:52	09/24/20 10:48	
410-14968-2	MW-20R	Water	09/23/20 11:02	09/24/20 10:48	
410-14968-3	MW-126	Water	09/23/20 12:40	09/24/20 10:48	
410-14968-4	MW-143	Water	09/23/20 13:20	09/24/20 10:48	
410-14968-5	MW-515	Water	09/23/20 09:00	09/24/20 10:48	
410-14968-6	MW-516	Water	09/23/20 10:00	09/24/20 10:48	
410-14968-7	MW-517	Water	09/23/20 11:15	09/24/20 10:48	
410-14968-8	MW-518	Water	09/23/20 09:42	09/24/20 10:48	
410-14968-9	MW-519	Water	09/23/20 12:00	09/24/20 10:48	
410-14968-10	MW-522	Water	09/23/20 11:52	09/24/20 10:48	
410-14968-11	DUP-4	Water	09/23/20 00:00	09/24/20 10:48	
410-14968-12	TRIP BLANK	Water	09/23/20 00:00	09/24/20 10:48	



Lancaster Laboratories

Acct. 410-14968 Chain of Custody



Laboratories use only

Sample # _____

correspond with circled numbers.

1 Client Information			4 Matrix			5 Analyses Requested						6 Remarks			
Facility # <u>EDMONDS Terminal</u> WBS			<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air Total Number of Containers _____			Total Number of Containers _____ BTEX-MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan <u>8260</u> Oxygenates _____ NWTPH GX _____ NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method _____ WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>CPAHs 8220 SIM</u>						SCR #: _____ <input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits			
Site Address <u>11720 UNDCO Road, EDMONDS WA</u>															
Chevron PM <u>KIM JOLITZ</u> Lead Consultant <u>ARCADIS</u>															
Consultant/Office <u>1100 OLIVE Way, Suite 800, Seattle, WA</u>															
Consultant Project Mgr. <u>SAM MILES</u> <u>98161</u>															
Consultant Phone # _____			Composite <input type="checkbox"/> Grab <input checked="" type="checkbox"/>			8260 full scan NWTPH GX NWTPH DX Lead Total WAVPH WAEPH <u>CPAHs 8220 SIM</u>						use standard SGC			
Sampler <u>DSG, RB, KZ</u>															
2 Sample Identification			3 Collected												
MW-8R			9-23-20 1252			X									
MW-20R			1102			X									
MW-126			1240			X									
MW-143			1320			X									
MW-515			0900			X									
MW-516			1000			X									
MW-517			1115			X									
MW-518			0942			X									
MW-519			1200			X									
MW-522			1152			X									
Dup-4			-			X									
TRIP BLANK			-			X									
7 Turnaround Time Requested (TAT) (please circle)			Relinquished by <u>Dawn Smyth</u>			Date <u>9-23-20</u>			Time <u>1600</u>			Received by _____		Date _____ Time _____	
(Standard) 5 day 4 day 72 hour 48 hour 24 hour			Relinquished by _____			Date _____			Time _____			Received by _____		Date _____ Time _____	
8 Data Package Options (please circle if required)			Relinquished by Commerical Carrier:						Received by <u>W.R.</u>			Date <u>9/24/20</u>		Time <u>1048</u>	
Type I - Full Type VI (Raw Data)			UPS _____ FedEx <input checked="" type="checkbox"/> Other _____						Temperature Upon Receipt <u>0.8/0.9 °C</u>			Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-14968-1

Login Number: 14968

List Number: 1

Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-19377-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
11/22/2020 1:17:43 PM

Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

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results through
TotalAccess

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www.eurofinsus.com/Env

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Amek Carter
Project Manager
11/22/2020 1:17:43 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Job ID: 410-19377-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-19377-1

Receipt

The samples were received on 11/4/2020 10:40 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.2°C and 1.5°C

Receipt Exceptions

One 40mL HCl preserved vial for the following sample was received empty: DUP-1-WD-201103 (410-19377-9).

GC/MS VOA

Method 8260D: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: LM-2-W-201103 (410-19377-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: LM-2-W-201103

Lab Sample ID: 410-19377-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	19	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	820		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	200		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	210		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-139R-W-201103

Lab Sample ID: 410-19377-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	4.4	J	5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.50		0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	1300		250	75	mg/L	250		EPA 300.0 R2.1	Total/NA
Manganese	2.1		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-502-W-201103

Lab Sample ID: 410-19377-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	20		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	280		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-503-W-201103

Lab Sample ID: 410-19377-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	96		5.0	3.0	ug/L	1		RSK-175	Total/NA
C12-C24	420		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	430		270	110	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	22		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	460		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-511-W-201103

Lab Sample ID: 410-19377-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.71		0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	20		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	1.9	J	2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-512-W-201103

Lab Sample ID: 410-19377-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	57	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1200		50	30	ug/L	10		RSK-175	Total/NA
Sulfate	47		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	2200		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-530-W-201103

Lab Sample ID: 410-19377-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	290		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	1200		200	60	mg/L	200		EPA 300.0 R2.1	Total/NA
Manganese	410		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-535-W-201103

Lab Sample ID: 410-19377-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C24-C40	190	J	270	110	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-535-W-201103 (Continued)

Lab Sample ID: 410-19377-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.60	F1	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	1500		500	150	mg/L	500		EPA 300.0 R2.1	Total/NA

Client Sample ID: DUP-1-WD-201103

Lab Sample ID: 410-19377-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	3.0	J	5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.50		0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	1300		250	75	mg/L	250		EPA 300.0 R2.1	Total/NA
Manganese	2.8		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-201103

Lab Sample ID: 410-19377-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: LM-2-W-201103

Lab Sample ID: 410-19377-1

Date Collected: 11/03/20 13:00

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	2.0	ug/L			11/13/20 01:11	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					11/13/20 01:11	10
Dibromofluoromethane (Surr)	101		80 - 120					11/13/20 01:11	10
4-Bromofluorobenzene (Surr)	94		80 - 120					11/13/20 01:11	10
Toluene-d8 (Surr)	97		80 - 120					11/13/20 01:11	10

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Chrysene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		11/09/20 19:30	11/11/20 00:52	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/09/20 19:30	11/11/20 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	75		10 - 122				11/09/20 19:30	11/11/20 00:52	1
1-Methylnaphthalene-d10 (Surr)	72		49 - 115				11/09/20 19:30	11/11/20 00:52	1
Fluoranthene-d10 (Surr)	93		65 - 129				11/09/20 19:30	11/11/20 00:52	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	19	J	250	19	ug/L			11/05/20 01:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/05/20 01:17	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	820		25	15	ug/L		11/06/20 08:36	11/06/20 09:46	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	80		28 - 140				11/06/20 08:36	11/06/20 09:46	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		11/08/20 13:35	11/10/20 21:34	1
C24-C40	ND		260	100	ug/L		11/08/20 13:35	11/10/20 21:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/08/20 13:35	11/10/20 21:34	1
o-terphenyl (Surr)	69		50 - 150				11/08/20 13:35	11/10/20 21:34	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/05/20 01:02	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: LM-2-W-201103

Lab Sample ID: 410-19377-1

Date Collected: 11/03/20 13:00

Matrix: Water

Date Received: 11/04/20 10:40

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	200		50	15	mg/L			11/20/20 11:06	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	210		2.1	0.65	ug/L		11/04/20 20:36	11/06/20 14:45	1

Client Sample ID: MW-139R-W-201103

Lab Sample ID: 410-19377-2

Date Collected: 11/03/20 10:28

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 01:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		11/13/20 01:33	1
Dibromofluoromethane (Surr)	102		80 - 120		11/13/20 01:33	1
4-Bromofluorobenzene (Surr)	95		80 - 120		11/13/20 01:33	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 01:33	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1
Chrysene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		11/09/20 19:30	11/11/20 01:20	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 01:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	74		10 - 122	11/09/20 19:30	11/11/20 01:20	1
1-Methylnaphthalene-d10 (Surr)	68		49 - 115	11/09/20 19:30	11/11/20 01:20	1
Fluoranthene-d10 (Surr)	84		65 - 129	11/09/20 19:30	11/11/20 01:20	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/05/20 01:43	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	4.4	J	5.0	3.0	ug/L		11/05/20 08:38	11/05/20 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	99		28 - 140	11/05/20 08:38	11/05/20 16:02	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		11/08/20 13:35	11/10/20 22:19	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-139R-W-201103

Lab Sample ID: 410-19377-2

Date Collected: 11/03/20 10:28

Matrix: Water

Date Received: 11/04/20 10:40

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		280	110	ug/L		11/08/20 13:35	11/10/20 22:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/08/20 13:35	11/10/20 22:19	1
<i>o-terphenyl (Surr)</i>	74		50 - 150				11/08/20 13:35	11/10/20 22:19	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.50		0.50	0.25	mg/L			11/05/20 01:19	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1300		250	75	mg/L			11/20/20 11:24	250

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.1		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:46	1

Client Sample ID: MW-502-W-201103

Lab Sample ID: 410-19377-3

Date Collected: 11/03/20 10:30

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 01:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	107		80 - 120					11/13/20 01:55	1
<i>Dibromofluoromethane (Surr)</i>	103		80 - 120					11/13/20 01:55	1
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120					11/13/20 01:55	1
<i>Toluene-d8 (Surr)</i>	97		80 - 120					11/13/20 01:55	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Chrysene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		11/09/20 19:30	11/11/20 01:48	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		11/09/20 19:30	11/11/20 01:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	63		10 - 122				11/09/20 19:30	11/11/20 01:48	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	67		49 - 115				11/09/20 19:30	11/11/20 01:48	1
<i>Fluoranthene-d10 (Surr)</i>	83		65 - 129				11/09/20 19:30	11/11/20 01:48	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 02:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-502-W-201103

Lab Sample ID: 410-19377-3

Date Collected: 11/03/20 10:30

Matrix: Water

Date Received: 11/04/20 10:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/05/20 02:09	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/05/20 08:38	11/05/20 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	99		28 - 140	11/05/20 08:38	11/05/20 16:39	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/08/20 13:35	11/10/20 22:42	1
C24-C40	ND		270	110	ug/L		11/08/20 13:35	11/10/20 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/08/20 13:35	11/10/20 22:42	1
o-terphenyl (Surr)	56		50 - 150	11/08/20 13:35	11/10/20 22:42	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/05/20 01:36	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20		5.0	1.5	mg/L			11/05/20 01:36	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	280		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:36	1

Client Sample ID: MW-503-W-201103

Lab Sample ID: 410-19377-4

Date Collected: 11/03/20 12:25

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 02:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		11/13/20 02:17	1
Dibromofluoromethane (Surr)	103		80 - 120		11/13/20 02:17	1
4-Bromofluorobenzene (Surr)	95		80 - 120		11/13/20 02:17	1
Toluene-d8 (Surr)	97		80 - 120		11/13/20 02:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1
Chrysene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1
Dibenz[a,h]anthracene	ND		0.075	0.021	ug/L		11/09/20 19:30	11/11/20 02:16	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		11/09/20 19:30	11/11/20 02:16	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-503-W-201103

Lab Sample ID: 410-19377-4

Date Collected: 11/03/20 12:25

Matrix: Water

Date Received: 11/04/20 10:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	85		10 - 122	11/09/20 19:30	11/11/20 02:16	1
1-Methylnaphthalene-d10 (Surr)	72		49 - 115	11/09/20 19:30	11/11/20 02:16	1
Fluoranthene-d10 (Surr)	90		65 - 129	11/09/20 19:30	11/11/20 02:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 02:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/05/20 02:34	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	96		5.0	3.0	ug/L		11/05/20 08:43	11/05/20 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	92		28 - 140	11/05/20 08:43	11/05/20 16:57	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	420		110	49	ug/L		11/08/20 13:35	11/10/20 23:04	1
C24-C40	430		270	110	ug/L		11/08/20 13:35	11/10/20 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/08/20 13:35	11/10/20 23:04	1
o-terphenyl (Surr)	66		50 - 150	11/08/20 13:35	11/10/20 23:04	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/05/20 01:53	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22		5.0	1.5	mg/L			11/05/20 01:53	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	460		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:42	1

Client Sample ID: MW-511-W-201103

Lab Sample ID: 410-19377-5

Date Collected: 11/03/20 09:55

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 02:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		11/13/20 02:40	1
Dibromofluoromethane (Surr)	102		80 - 120		11/13/20 02:40	1
4-Bromofluorobenzene (Surr)	93		80 - 120		11/13/20 02:40	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 02:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-511-W-201103

Lab Sample ID: 410-19377-5

Date Collected: 11/03/20 09:55

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Chrysene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		11/09/20 19:30	11/11/20 02:45	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 02:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	70		10 - 122				11/09/20 19:30	11/11/20 02:45	1
1-Methylnaphthalene-d10 (Surr)	56		49 - 115				11/09/20 19:30	11/11/20 02:45	1
Fluoranthene-d10 (Surr)	74		65 - 129				11/09/20 19:30	11/11/20 02:45	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 03:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/05/20 03:00	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/05/20 08:43	11/05/20 17:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	94		28 - 140				11/05/20 08:43	11/05/20 17:15	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	51	ug/L		11/08/20 13:35	11/10/20 23:27	1
C24-C40	ND		280	110	ug/L		11/08/20 13:35	11/10/20 23:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/08/20 13:35	11/10/20 23:27	1
o-terphenyl (Surr)	53		50 - 150				11/08/20 13:35	11/10/20 23:27	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.71		0.50	0.25	mg/L			11/05/20 02:10	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20		5.0	1.5	mg/L			11/05/20 02:10	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.9	J	2.1	0.65	ug/L		11/04/20 20:36	11/06/20 14:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-512-W-201103

Lab Sample ID: 410-19377-6

Date Collected: 11/03/20 12:10

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 03:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					11/13/20 03:02	1
Dibromofluoromethane (Surr)	102		80 - 120					11/13/20 03:02	1
4-Bromofluorobenzene (Surr)	95		80 - 120					11/13/20 03:02	1
Toluene-d8 (Surr)	97		80 - 120					11/13/20 03:02	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Chrysene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		11/09/20 19:30	11/11/20 03:13	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	63		10 - 122				11/09/20 19:30	11/11/20 03:13	1
1-Methylnaphthalene-d10 (Surr)	71		49 - 115				11/09/20 19:30	11/11/20 03:13	1
Fluoranthene-d10 (Surr)	88		65 - 129				11/09/20 19:30	11/11/20 03:13	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	57	J	250	19	ug/L			11/05/20 03:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/05/20 03:26	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1200		50	30	ug/L		11/06/20 08:36	11/06/20 10:03	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	88		28 - 140				11/06/20 08:36	11/06/20 10:03	10

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	51	ug/L		11/08/20 13:35	11/10/20 23:50	1
C24-C40	ND		280	110	ug/L		11/08/20 13:35	11/10/20 23:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/08/20 13:35	11/10/20 23:50	1
o-terphenyl (Surr)	60		50 - 150				11/08/20 13:35	11/10/20 23:50	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/05/20 02:27	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-512-W-201103

Lab Sample ID: 410-19377-6

Date Collected: 11/03/20 12:10

Matrix: Water

Date Received: 11/04/20 10:40

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	47		5.0	1.5	mg/L			11/05/20 02:27	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2200		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:48	1

Client Sample ID: MW-530-W-201103

Lab Sample ID: 410-19377-7

Date Collected: 11/03/20 12:15

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 03:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		11/13/20 03:24	1
Dibromofluoromethane (Surr)	102		80 - 120		11/13/20 03:24	1
4-Bromofluorobenzene (Surr)	94		80 - 120		11/13/20 03:24	1
Toluene-d8 (Surr)	97		80 - 120		11/13/20 03:24	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1
Chrysene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1
Dibenz(a,h)anthracene	ND		0.080	0.023	ug/L		11/09/20 19:30	11/11/20 03:41	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		11/09/20 19:30	11/11/20 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	59		10 - 122	11/09/20 19:30	11/11/20 03:41	1
1-Methylnaphthalene-d10 (Surr)	65		49 - 115	11/09/20 19:30	11/11/20 03:41	1
Fluoranthene-d10 (Surr)	91		65 - 129	11/09/20 19:30	11/11/20 03:41	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/05/20 03:51	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	290		5.0	3.0	ug/L		11/05/20 08:46	11/05/20 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	90		28 - 140	11/05/20 08:46	11/05/20 14:03	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	51	ug/L		11/08/20 13:35	11/11/20 00:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-530-W-201103

Lab Sample ID: 410-19377-7

Date Collected: 11/03/20 12:15

Matrix: Water

Date Received: 11/04/20 10:40

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		280	110	ug/L		11/08/20 13:35	11/11/20 00:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/08/20 13:35	11/11/20 00:12	1
<i>o-terphenyl (Surr)</i>	67		50 - 150				11/08/20 13:35	11/11/20 00:12	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/05/20 02:44	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1200		200	60	mg/L			11/20/20 11:42	200

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	410		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:44	1

Client Sample ID: MW-535-W-201103

Lab Sample ID: 410-19377-8

Date Collected: 11/03/20 13:10

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 03:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	106		80 - 120					11/13/20 03:46	1
<i>Dibromofluoromethane (Surr)</i>	104		80 - 120					11/13/20 03:46	1
<i>4-Bromofluorobenzene (Surr)</i>	93		80 - 120					11/13/20 03:46	1
<i>Toluene-d8 (Surr)</i>	97		80 - 120					11/13/20 03:46	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Chrysene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		11/09/20 19:30	11/11/20 04:09	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/09/20 19:30	11/11/20 04:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	73		10 - 122				11/09/20 19:30	11/11/20 04:09	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	62		49 - 115				11/09/20 19:30	11/11/20 04:09	1
<i>Fluoranthene-d10 (Surr)</i>	82		65 - 129				11/09/20 19:30	11/11/20 04:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 04:17	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-535-W-201103

Lab Sample ID: 410-19377-8

Date Collected: 11/03/20 13:10

Matrix: Water

Date Received: 11/04/20 10:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/05/20 04:17	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/05/20 08:46	11/05/20 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	92		28 - 140	11/05/20 08:46	11/05/20 14:21	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/08/20 13:35	11/11/20 00:35	1
C24-C40	190	J	270	110	ug/L		11/08/20 13:35	11/11/20 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/08/20 13:35	11/11/20 00:35	1
o-terphenyl (Surr)	66		50 - 150	11/08/20 13:35	11/11/20 00:35	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.60	F1	0.50	0.25	mg/L			11/05/20 03:01	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1500		500	150	mg/L			11/20/20 12:00	500

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:21	1

Client Sample ID: DUP-1-WD-201103

Lab Sample ID: 410-19377-9

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 04:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		11/13/20 04:08	1
Dibromofluoromethane (Surr)	103		80 - 120		11/13/20 04:08	1
4-Bromofluorobenzene (Surr)	94		80 - 120		11/13/20 04:08	1
Toluene-d8 (Surr)	97		80 - 120		11/13/20 04:08	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1
Chrysene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1
Dibenz[a,h]anthracene	ND		0.079	0.023	ug/L		11/09/20 19:30	11/11/20 04:37	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/09/20 19:30	11/11/20 04:37	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: DUP-1-WD-201103

Lab Sample ID: 410-19377-9

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	70		10 - 122	11/09/20 19:30	11/11/20 04:37	1
1-Methylnaphthalene-d10 (Surr)	54		49 - 115	11/09/20 19:30	11/11/20 04:37	1
Fluoranthene-d10 (Surr)	77		65 - 129	11/09/20 19:30	11/11/20 04:37	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		11/05/20 04:43	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	3.0	J	5.0	3.0	ug/L		11/05/20 08:46	11/05/20 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	11/05/20 08:46	11/05/20 14:44	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/10/20 09:10	11/16/20 22:10	1
C24-C40	ND		270	110	ug/L		11/10/20 09:10	11/16/20 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/16/20 22:10	1
o-terphenyl (Surr)	73		50 - 150	11/10/20 09:10	11/16/20 22:10	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.50		0.50	0.25	mg/L			11/04/20 22:11	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1300		250	75	mg/L			11/20/20 12:54	250

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.8		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:34	1

Client Sample ID: QA-T-201103

Lab Sample ID: 410-19377-10

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 00:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		11/13/20 00:27	1
Dibromofluoromethane (Surr)	100		80 - 120		11/13/20 00:27	1
4-Bromofluorobenzene (Surr)	94		80 - 120		11/13/20 00:27	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 00:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: QA-T-201103

Lab Sample ID: 410-19377-10

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/05/20 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/05/20 00:52	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-19377-1	LM-2-W-201103	104	101	94	97
410-19377-2	MW-139R-W-201103	106	102	95	98
410-19377-3	MW-502-W-201103	107	103	95	97
410-19377-4	MW-503-W-201103	105	103	95	97
410-19377-5	MW-511-W-201103	106	102	93	98
410-19377-6	MW-512-W-201103	105	102	95	97
410-19377-7	MW-530-W-201103	105	102	94	97
410-19377-8	MW-535-W-201103	106	104	93	97
410-19377-9	DUP-1-WD-201103	106	103	94	97
410-19377-10	QA-T-201103	102	100	94	98
LCS 410-65384/5	Lab Control Sample	104	100	98	99
LCSD 410-65384/6	Lab Control Sample Dup	104	100	99	99
MB 410-65384/10	Method Blank	104	101	95	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
410-19377-1	LM-2-W-201103	75	72	93
410-19377-2	MW-139R-W-201103	74	68	84
410-19377-3	MW-502-W-201103	63	67	83
410-19377-4	MW-503-W-201103	85	72	90
410-19377-5	MW-511-W-201103	70	56	74
410-19377-6	MW-512-W-201103	63	71	88
410-19377-7	MW-530-W-201103	59	65	91
410-19377-8	MW-535-W-201103	73	62	82
410-19377-9	DUP-1-WD-201103	70	54	77
LCS 410-63887/2-A	Lab Control Sample	95	86	94
LCSD 410-63887/3-A	Lab Control Sample Dup	96	83	95
MB 410-63887/1-A	Method Blank	87	71	88

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-150)
410-19377-1	LM-2-W-201103	86

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-19377-2	MW-139R-W-201103	86
410-19377-3	MW-502-W-201103	86
410-19377-4	MW-503-W-201103	86
410-19377-5	MW-511-W-201103	86
410-19377-6	MW-512-W-201103	86
410-19377-7	MW-530-W-201103	86
410-19377-8	MW-535-W-201103	86
410-19377-9	DUP-1-WD-201103	85
410-19377-10	QA-T-201103	86
LCS 410-62207/5	Lab Control Sample	78
LCSD 410-62207/6	Lab Control Sample Dup	78
MB 410-62207/4	Method Blank	87

Surrogate Legend
TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-19377-1	LM-2-W-201103	80
410-19377-2	MW-139R-W-201103	99
410-19377-3	MW-502-W-201103	99
410-19377-4	MW-503-W-201103	92
410-19377-5	MW-511-W-201103	94
410-19377-6	MW-512-W-201103	88
410-19377-7	MW-530-W-201103	90
410-19377-8	MW-535-W-201103	92
410-19377-9	DUP-1-WD-201103	87
LCS 410-62478/2-A	Lab Control Sample	107
LCS 410-62483/2-A	Lab Control Sample	98
LCS 410-62954/2-A	Lab Control Sample	97
LCSD 410-62483/3-A	Lab Control Sample Dup	97
LCSD 410-62954/3-A	Lab Control Sample Dup	94
MB 410-62478/1-A	Method Blank	105
MB 410-62483/1-A	Method Blank	97
MB 410-62954/1-A	Method Blank	90

Surrogate Legend
Propene = Propene

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-19377-1	LM-2-W-201103	0.3	69
410-19377-1 DU	LM-2-W-201103	0.3	67
410-19377-2	MW-139R-W-201103	0.3	74

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-19377-3	MW-502-W-201103	0.3	56
410-19377-4	MW-503-W-201103	0.3	66
410-19377-5	MW-511-W-201103	0.3	53
410-19377-6	MW-512-W-201103	0.3	60
410-19377-7	MW-530-W-201103	0.3	67
410-19377-8	MW-535-W-201103	0.3	66
410-19377-9	DUP-1-WD-201103	0.3	73
LCS 410-63426/2-B	Lab Control Sample	0.4	77
LCS 410-64084/2-B	Lab Control Sample	0.4	53
LCSD 410-63426/3-B	Lab Control Sample Dup	0.5	82
MB 410-63426/1-B	Method Blank	0.3	71
MB 410-64084/1-B	Method Blank	0.3	67

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-65384/10
Matrix: Water
Analysis Batch: 65384

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		1.0	0.20	ug/L			11/12/20 23:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	104		80 - 120				11/12/20 23:46	1	
Dibromofluoromethane (Surr)	101		80 - 120				11/12/20 23:46	1	
4-Bromofluorobenzene (Surr)	95		80 - 120				11/12/20 23:46	1	
Toluene-d8 (Surr)	98		80 - 120				11/12/20 23:46	1	

Lab Sample ID: LCS 410-65384/5
Matrix: Water
Analysis Batch: 65384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	20.0	19.6		ug/L		98	80 - 120
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		80 - 120				
Dibromofluoromethane (Surr)	100		80 - 120				
4-Bromofluorobenzene (Surr)	98		80 - 120				
Toluene-d8 (Surr)	99		80 - 120				

Lab Sample ID: LCSD 410-65384/6
Matrix: Water
Analysis Batch: 65384

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Benzene	20.0	20.0		ug/L		100	80 - 120	2	30
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	104		80 - 120						
Dibromofluoromethane (Surr)	100		80 - 120						
4-Bromofluorobenzene (Surr)	99		80 - 120						
Toluene-d8 (Surr)	99		80 - 120						

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-63887/1-A
Matrix: Water
Analysis Batch: 64441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63887

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzo[a]anthracene	0.0255	J	0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1
Benzo[a]pyrene	0.0160	J	0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1
Benzo[b]fluoranthene	0.0241	J	0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1
Chrysene	0.0256	J	0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/09/20 19:30	11/10/20 23:28	1
Indeno[1,2,3-cd]pyrene	0.0151	J	0.050	0.010	ug/L		11/09/20 19:30	11/10/20 23:28	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Benzo(a)pyrene-d12 (Surr)	87		10 - 122	11/09/20 19:30	11/10/20 23:28	1
1-Methylnaphthalene-d10 (Surr)	71		49 - 115	11/09/20 19:30	11/10/20 23:28	1
Fluoranthene-d10 (Surr)	88		65 - 129	11/09/20 19:30	11/10/20 23:28	1

Lab Sample ID: LCS 410-63887/2-A

Matrix: Water

Analysis Batch: 64441

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 63887

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzo[a]anthracene	1.00	1.02		ug/L		102	69 - 119	
Benzo[a]pyrene	1.00	0.994		ug/L		99	73 - 117	
Benzo[b]fluoranthene	1.00	1.12		ug/L		112	72 - 123	
Benzo[k]fluoranthene	1.00	1.01		ug/L		101	66 - 124	
Chrysene	1.00	0.970		ug/L		97	61 - 117	
Dibenz(a,h)anthracene	1.00	1.03		ug/L		103	60 - 118	
Indeno[1,2,3-cd]pyrene	1.00	1.19		ug/L		119	57 - 134	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	95		10 - 122
1-Methylnaphthalene-d10 (Surr)	86		49 - 115
Fluoranthene-d10 (Surr)	94		65 - 129

Lab Sample ID: LCSD 410-63887/3-A

Matrix: Water

Analysis Batch: 64441

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63887

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
Benzo[a]anthracene	1.00	1.05		ug/L		105	69 - 119	3	30	
Benzo[a]pyrene	1.00	1.00		ug/L		100	73 - 117	1	30	
Benzo[b]fluoranthene	1.00	1.09		ug/L		109	72 - 123	3	30	
Benzo[k]fluoranthene	1.00	1.05		ug/L		105	66 - 124	4	30	
Chrysene	1.00	1.01		ug/L		101	61 - 117	4	30	
Dibenz(a,h)anthracene	1.00	1.03		ug/L		103	60 - 118	0	30	
Indeno[1,2,3-cd]pyrene	1.00	1.20		ug/L		120	57 - 134	1	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	96		10 - 122
1-Methylnaphthalene-d10 (Surr)	83		49 - 115
Fluoranthene-d10 (Surr)	95		65 - 129

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-62207/4

Matrix: Water

Analysis Batch: 62207

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C7-C12 (1C)	ND		250	19	ug/L			11/04/20 23:35	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		11/04/20 23:35	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: LCS 410-62207/5

Matrix: Water

Analysis Batch: 62207

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1090		ug/L		99	64 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150				

Lab Sample ID: LCSD 410-62207/6

Matrix: Water

Analysis Batch: 62207

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1080		ug/L		98	64 - 131	0	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150						

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-62478/1-A

Matrix: Water

Analysis Batch: 62516

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 62478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/05/20 08:38	11/05/20 09:51	1
Surrogate	%Recovery	MB Qualifier	Limits						
Propene (1C)	105		28 - 140						

Lab Sample ID: LCS 410-62478/2-A

Matrix: Water

Analysis Batch: 62516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 62478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	65.3		ug/L		110	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	107		28 - 140				

Lab Sample ID: MB 410-62483/1-A

Matrix: Water

Analysis Batch: 62500

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 62483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/05/20 08:46	11/05/20 09:51	1
Surrogate	%Recovery	MB Qualifier	Limits						
Propene (1C)	97		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 410-62483/2-A
Matrix: Water
Analysis Batch: 62500

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	61.7		ug/L		104	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	98		28 - 140				

Lab Sample ID: LCSD 410-62483/3-A
Matrix: Water
Analysis Batch: 62500

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62483

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	61.1		ug/L		103	85 - 115	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	97		28 - 140						

Lab Sample ID: MB 410-62954/1-A
Matrix: Water
Analysis Batch: 62980

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62954

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/06/20 08:36	11/06/20 08:47	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	90		28 - 140				11/06/20 08:36	11/06/20 08:47	1

Lab Sample ID: LCS 410-62954/2-A
Matrix: Water
Analysis Batch: 62980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62954

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	62.3		ug/L		105	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	97		28 - 140				

Lab Sample ID: LCSD 410-62954/3-A
Matrix: Water
Analysis Batch: 62980

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 62954

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	62.4		ug/L		105	85 - 115	0	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	94		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-63426/1-B
Matrix: Water
Analysis Batch: 64416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63426

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		11/08/20 13:35	11/10/20 20:27	1
C24-C40	ND		250	100	ug/L		11/08/20 13:35	11/10/20 20:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1			11/08/20 13:35	11/10/20 20:27	1	
<i>o-terphenyl (Surr)</i>	71		50 - 150			11/08/20 13:35	11/10/20 20:27	1	

Lab Sample ID: LCS 410-63426/2-B
Matrix: Water
Analysis Batch: 64416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63426

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	603	216		ug/L		36	10 - 115
Surrogate	%Recovery	Qualifier	Limits				
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1				
<i>o-terphenyl (Surr)</i>	77		50 - 150				

Lab Sample ID: LCSD 410-63426/3-B
Matrix: Water
Analysis Batch: 64416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63426

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
C12-C24	603	245		ug/L		41	10 - 115	13	20
Surrogate	%Recovery	Qualifier	Limits						
<i>n-Decanoic Acid (Surr)</i>	0.5		0 - 1						
<i>o-terphenyl (Surr)</i>	82		50 - 150						

Lab Sample ID: 410-19377-1 DU
Matrix: Water
Analysis Batch: 64416

Client Sample ID: LM-2-W-201103
Prep Type: Total/NA
Prep Batch: 63426

Analyte	Sample Sample		DU DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C12-C24	ND		ND		ug/L		NC	20
C24-C40	ND		ND		ug/L		NC	20
Surrogate	%Recovery	Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1					
<i>o-terphenyl (Surr)</i>	67		50 - 150					

Lab Sample ID: MB 410-64084/1-B
Matrix: Water
Analysis Batch: 66652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64084

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		11/10/20 09:10	11/16/20 21:25	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-64084/1-B

Matrix: Water

Analysis Batch: 66652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 64084

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		250	100	ug/L		11/10/20 09:10	11/16/20 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/10/20 09:10	11/16/20 21:25	1
<i>o-terphenyl (Surr)</i>	67		50 - 150				11/10/20 09:10	11/16/20 21:25	1

Lab Sample ID: LCS 410-64084/2-B

Matrix: Water

Analysis Batch: 66652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 64084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	603	121		ug/L		20	10 - 115
Surrogate	%Recovery	Qualifier	Limits				
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1				
<i>o-terphenyl (Surr)</i>	53		50 - 150				

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-62107/4

Matrix: Water

Analysis Batch: 62107

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/04/20 14:48	1

Lab Sample ID: LCS 410-62107/3

Matrix: Water

Analysis Batch: 62107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.705		mg/L		94	90 - 110

Lab Sample ID: 410-19377-8 MS

Matrix: Water

Analysis Batch: 62107

Client Sample ID: MW-535-W-201103

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.60	F1	2.50	2.83	F1	mg/L		89	90 - 110

Lab Sample ID: 410-19377-8 DU

Matrix: Water

Analysis Batch: 62107

Client Sample ID: MW-535-W-201103

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	0.60	F1	0.583		mg/L		3	15

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-62106/4
Matrix: Water
Analysis Batch: 62106

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/04/20 14:48	1

Lab Sample ID: LCS 410-62106/3
Matrix: Water
Analysis Batch: 62106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.16		mg/L		96	90 - 110

Lab Sample ID: MB 410-68396/4
Matrix: Water
Analysis Batch: 68396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/20/20 09:35	1

Lab Sample ID: LCS 410-68396/3
Matrix: Water
Analysis Batch: 68396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.02		mg/L		94	90 - 110

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-62230/1-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/04/20 17:23	11/12/20 18:17	1

Lab Sample ID: LCS 410-62230/2-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	21.7		ug/L		109	85 - 115

Lab Sample ID: MB 410-62298/1-A
Matrix: Water
Analysis Batch: 63106

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 62298

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/04/20 20:36	11/06/20 14:32	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-62298/2-A
Matrix: Water
Analysis Batch: 63106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 62298

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	20.3		ug/L		102	85 - 115

Lab Sample ID: 410-19377-8 MS
Matrix: Water
Analysis Batch: 65569

Client Sample ID: MW-535-W-201103
Prep Type: Dissolved
Prep Batch: 62230

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	ND		20.0	22.7		ug/L		114	70 - 130

Lab Sample ID: 410-19377-8 MSD
Matrix: Water
Analysis Batch: 65569

Client Sample ID: MW-535-W-201103
Prep Type: Dissolved
Prep Batch: 62230

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	ND		20.0	20.3		ug/L		102	70 - 130	11	20

Lab Sample ID: 410-19377-8 DU
Matrix: Water
Analysis Batch: 65569

Client Sample ID: MW-535-W-201103
Prep Type: Dissolved
Prep Batch: 62230

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	ND		20.0	ND		ug/L		102	70 - 130	NC	20

Lab Sample ID: 410-19377-5 MS
Matrix: Water
Analysis Batch: 63106

Client Sample ID: MW-511-W-201103
Prep Type: Dissolved
Prep Batch: 62298

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.9	J	20.0	22.3		ug/L		102	70 - 130

Lab Sample ID: 410-19377-5 DU
Matrix: Water
Analysis Batch: 63106

Client Sample ID: MW-511-W-201103
Prep Type: Dissolved
Prep Batch: 62298

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	1.9	J	20.0	2.05	J	ug/L		102	70 - 130	7	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

GC/MS VOA

Analysis Batch: 65384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	8260D	
410-19377-2	MW-139R-W-201103	Total/NA	Water	8260D	
410-19377-3	MW-502-W-201103	Total/NA	Water	8260D	
410-19377-4	MW-503-W-201103	Total/NA	Water	8260D	
410-19377-5	MW-511-W-201103	Total/NA	Water	8260D	
410-19377-6	MW-512-W-201103	Total/NA	Water	8260D	
410-19377-7	MW-530-W-201103	Total/NA	Water	8260D	
410-19377-8	MW-535-W-201103	Total/NA	Water	8260D	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	8260D	
410-19377-10	QA-T-201103	Total/NA	Water	8260D	
MB 410-65384/10	Method Blank	Total/NA	Water	8260D	
LCS 410-65384/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-65384/6	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 63887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	3510C	
410-19377-2	MW-139R-W-201103	Total/NA	Water	3510C	
410-19377-3	MW-502-W-201103	Total/NA	Water	3510C	
410-19377-4	MW-503-W-201103	Total/NA	Water	3510C	
410-19377-5	MW-511-W-201103	Total/NA	Water	3510C	
410-19377-6	MW-512-W-201103	Total/NA	Water	3510C	
410-19377-7	MW-530-W-201103	Total/NA	Water	3510C	
410-19377-8	MW-535-W-201103	Total/NA	Water	3510C	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	3510C	
MB 410-63887/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-63887/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-63887/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 64441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-2	MW-139R-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-3	MW-502-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-4	MW-503-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-5	MW-511-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-6	MW-512-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-7	MW-530-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-8	MW-535-W-201103	Total/NA	Water	8270D SIM	63887
410-19377-9	DUP-1-WD-201103	Total/NA	Water	8270D SIM	63887
MB 410-63887/1-A	Method Blank	Total/NA	Water	8270D SIM	63887
LCS 410-63887/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	63887
LCSD 410-63887/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	63887

GC VOA

Analysis Batch: 62207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-2	MW-139R-W-201103	Total/NA	Water	NWTPH-Gx	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19377-1

GC VOA (Continued)

Analysis Batch: 62207 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-3	MW-502-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-4	MW-503-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-5	MW-511-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-6	MW-512-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-7	MW-530-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-8	MW-535-W-201103	Total/NA	Water	NWTPH-Gx	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	NWTPH-Gx	
410-19377-10	QA-T-201103	Total/NA	Water	NWTPH-Gx	
MB 410-62207/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-62207/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-62207/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Prep Batch: 62478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-2	MW-139R-W-201103	Total/NA	Water	RSK-175	
410-19377-3	MW-502-W-201103	Total/NA	Water	RSK-175	
410-19377-4	MW-503-W-201103	Total/NA	Water	RSK-175	
410-19377-5	MW-511-W-201103	Total/NA	Water	RSK-175	
MB 410-62478/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-62478/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Prep Batch: 62483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-7	MW-530-W-201103	Total/NA	Water	RSK-175	
410-19377-8	MW-535-W-201103	Total/NA	Water	RSK-175	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	RSK-175	
MB 410-62483/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-62483/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-62483/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 62500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-7	MW-530-W-201103	Total/NA	Water	RSK-175	62483
410-19377-8	MW-535-W-201103	Total/NA	Water	RSK-175	62483
410-19377-9	DUP-1-WD-201103	Total/NA	Water	RSK-175	62483
MB 410-62483/1-A	Method Blank	Total/NA	Water	RSK-175	62483
LCS 410-62483/2-A	Lab Control Sample	Total/NA	Water	RSK-175	62483
LCSD 410-62483/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	62483

Analysis Batch: 62516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-2	MW-139R-W-201103	Total/NA	Water	RSK-175	62478
410-19377-3	MW-502-W-201103	Total/NA	Water	RSK-175	62478
410-19377-4	MW-503-W-201103	Total/NA	Water	RSK-175	62478
410-19377-5	MW-511-W-201103	Total/NA	Water	RSK-175	62478
MB 410-62478/1-A	Method Blank	Total/NA	Water	RSK-175	62478
LCS 410-62478/2-A	Lab Control Sample	Total/NA	Water	RSK-175	62478

Prep Batch: 62954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	RSK-175	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

GC VOA (Continued)

Prep Batch: 62954 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-6	MW-512-W-201103	Total/NA	Water	RSK-175	
MB 410-62954/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-62954/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-62954/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 62980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	RSK-175	62954
410-19377-6	MW-512-W-201103	Total/NA	Water	RSK-175	62954
MB 410-62954/1-A	Method Blank	Total/NA	Water	RSK-175	62954
LCS 410-62954/2-A	Lab Control Sample	Total/NA	Water	RSK-175	62954
LCSD 410-62954/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	62954

GC Semi VOA

Prep Batch: 63426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	3510C	
410-19377-2	MW-139R-W-201103	Total/NA	Water	3510C	
410-19377-3	MW-502-W-201103	Total/NA	Water	3510C	
410-19377-4	MW-503-W-201103	Total/NA	Water	3510C	
410-19377-5	MW-511-W-201103	Total/NA	Water	3510C	
410-19377-6	MW-512-W-201103	Total/NA	Water	3510C	
410-19377-7	MW-530-W-201103	Total/NA	Water	3510C	
410-19377-8	MW-535-W-201103	Total/NA	Water	3510C	
MB 410-63426/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-63426/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-63426/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-19377-1 DU	LM-2-W-201103	Total/NA	Water	3510C	

Cleanup Batch: 64039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	3630C	63426
410-19377-2	MW-139R-W-201103	Total/NA	Water	3630C	63426
410-19377-3	MW-502-W-201103	Total/NA	Water	3630C	63426
410-19377-4	MW-503-W-201103	Total/NA	Water	3630C	63426
410-19377-5	MW-511-W-201103	Total/NA	Water	3630C	63426
410-19377-6	MW-512-W-201103	Total/NA	Water	3630C	63426
410-19377-7	MW-530-W-201103	Total/NA	Water	3630C	63426
410-19377-8	MW-535-W-201103	Total/NA	Water	3630C	63426
MB 410-63426/1-B	Method Blank	Total/NA	Water	3630C	63426
LCS 410-63426/2-B	Lab Control Sample	Total/NA	Water	3630C	63426
LCSD 410-63426/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	63426
410-19377-1 DU	LM-2-W-201103	Total/NA	Water	3630C	63426

Prep Batch: 64084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-9	DUP-1-WD-201103	Total/NA	Water	3510C	
MB 410-64084/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	3510C	

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19377-1

GC Semi VOA

Analysis Batch: 64416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-2	MW-139R-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-3	MW-502-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-4	MW-503-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-5	MW-511-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-6	MW-512-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-7	MW-530-W-201103	Total/NA	Water	NWTPH-Dx	64039
410-19377-8	MW-535-W-201103	Total/NA	Water	NWTPH-Dx	64039
MB 410-63426/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	64039
LCS 410-63426/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	64039
LCS 410-63426/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	64039
410-19377-1 DU	LM-2-W-201103	Total/NA	Water	NWTPH-Dx	64039

Cleanup Batch: 65528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-9	DUP-1-WD-201103	Total/NA	Water	3630C	64084
MB 410-64084/1-B	Method Blank	Total/NA	Water	3630C	64084
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	3630C	64084

Analysis Batch: 66652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-9	DUP-1-WD-201103	Total/NA	Water	NWTPH-Dx	65528
MB 410-64084/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	65528
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	65528

HPLC/IC

Analysis Batch: 62106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-3	MW-502-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-4	MW-503-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-5	MW-511-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-6	MW-512-W-201103	Total/NA	Water	EPA 300.0 R2.1	
MB 410-62106/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-62106/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 62107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-2	MW-139R-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-3	MW-502-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-4	MW-503-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-5	MW-511-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-6	MW-512-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-7	MW-530-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-8	MW-535-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	EPA 300.0 R2.1	
MB 410-62107/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-62107/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19377-8 MS	MW-535-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-8 DU	MW-535-W-201103	Total/NA	Water	EPA 300.0 R2.1	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

HPLC/IC

Analysis Batch: 68396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-2	MW-139R-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-7	MW-530-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-8	MW-535-W-201103	Total/NA	Water	EPA 300.0 R2.1	
410-19377-9	DUP-1-WD-201103	Total/NA	Water	EPA 300.0 R2.1	
MB 410-68396/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-68396/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 62230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-2	MW-139R-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-3	MW-502-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-4	MW-503-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-6	MW-512-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-7	MW-530-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-8	MW-535-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-9	DUP-1-WD-201103	Dissolved	Water	Non-Digest Prep	
MB 410-62230/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-62230/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-19377-8 MS	MW-535-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-8 MSD	MW-535-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-8 DU	MW-535-W-201103	Dissolved	Water	Non-Digest Prep	

Prep Batch: 62298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-5	MW-511-W-201103	Dissolved	Water	Non-Digest Prep	
MB 410-62298/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-62298/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-19377-5 MS	MW-511-W-201103	Dissolved	Water	Non-Digest Prep	
410-19377-5 DU	MW-511-W-201103	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 63106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-1	LM-2-W-201103	Dissolved	Water	200.8 Rev 5.4	62298
410-19377-5	MW-511-W-201103	Dissolved	Water	200.8 Rev 5.4	62298
MB 410-62298/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	62298
LCS 410-62298/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	62298
410-19377-5 MS	MW-511-W-201103	Dissolved	Water	200.8 Rev 5.4	62298
410-19377-5 DU	MW-511-W-201103	Dissolved	Water	200.8 Rev 5.4	62298

Analysis Batch: 65569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-2	MW-139R-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-3	MW-502-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-4	MW-503-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-6	MW-512-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-7	MW-530-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-8	MW-535-W-201103	Dissolved	Water	200.8 Rev 5.4	62230

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Metals (Continued)

Analysis Batch: 65569 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19377-9	DUP-1-WD-201103	Dissolved	Water	200.8 Rev 5.4	62230
MB 410-62230/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	62230
LCS 410-62230/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	62230
410-19377-8 MS	MW-535-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-8 MSD	MW-535-W-201103	Dissolved	Water	200.8 Rev 5.4	62230
410-19377-8 DU	MW-535-W-201103	Dissolved	Water	200.8 Rev 5.4	62230

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: LM-2-W-201103

Lab Sample ID: 410-19377-1

Date Collected: 11/03/20 13:00

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	65384	11/13/20 01:11	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 00:52	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 01:17	UMDJ	ELLE
Total/NA	Prep	RSK-175			62954	11/06/20 08:36	LXF2	ELLE
Total/NA	Analysis	RSK-175		5	62980	11/06/20 09:46	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 21:34	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	68396	11/20/20 11:06	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 01:02	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62298	11/04/20 20:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	63106	11/06/20 14:45	V5SW	ELLE

Client Sample ID: MW-139R-W-201103

Lab Sample ID: 410-19377-2

Date Collected: 11/03/20 10:28

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 01:33	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 01:20	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 01:43	UMDJ	ELLE
Total/NA	Prep	RSK-175			62478	11/05/20 08:38	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62516	11/05/20 16:02	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 22:19	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		250	68396	11/20/20 11:24	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 01:19	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:46	BMB	ELLE

Client Sample ID: MW-502-W-201103

Lab Sample ID: 410-19377-3

Date Collected: 11/03/20 10:30

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 01:55	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 01:48	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 02:09	UMDJ	ELLE
Total/NA	Prep	RSK-175			62478	11/05/20 08:38	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62516	11/05/20 16:39	LXF2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-502-W-201103

Lab Sample ID: 410-19377-3

Date Collected: 11/03/20 10:30

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 22:42	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62106	11/05/20 01:36	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 01:36	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:36	BMB	ELLE

Client Sample ID: MW-503-W-201103

Lab Sample ID: 410-19377-4

Date Collected: 11/03/20 12:25

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 02:17	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 02:16	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 02:34	UMDJ	ELLE
Total/NA	Prep	RSK-175			62478	11/05/20 08:43	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62516	11/05/20 16:57	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 23:04	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62106	11/05/20 01:53	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 01:53	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:42	BMB	ELLE

Client Sample ID: MW-511-W-201103

Lab Sample ID: 410-19377-5

Date Collected: 11/03/20 09:55

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 02:40	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 02:45	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 03:00	UMDJ	ELLE
Total/NA	Prep	RSK-175			62478	11/05/20 08:43	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62516	11/05/20 17:15	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 23:27	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62106	11/05/20 02:10	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 02:10	W5UX	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-511-W-201103

Lab Sample ID: 410-19377-5

Date Collected: 11/03/20 09:55

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			62298	11/04/20 20:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	63106	11/06/20 14:36	V5SW	ELLE

Client Sample ID: MW-512-W-201103

Lab Sample ID: 410-19377-6

Date Collected: 11/03/20 12:10

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 03:02	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 03:13	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 03:26	UMDJ	ELLE
Total/NA	Prep	RSK-175			62954	11/06/20 08:36	LXF2	ELLE
Total/NA	Analysis	RSK-175		10	62980	11/06/20 10:03	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/10/20 23:50	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62106	11/05/20 02:27	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 02:27	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:48	BMB	ELLE

Client Sample ID: MW-530-W-201103

Lab Sample ID: 410-19377-7

Date Collected: 11/03/20 12:15

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 03:24	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 03:41	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 03:51	UMDJ	ELLE
Total/NA	Prep	RSK-175			62483	11/05/20 08:46	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62500	11/05/20 14:03	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/11/20 00:12	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		200	68396	11/20/20 11:42	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 02:44	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:44	BMB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Client Sample ID: MW-535-W-201103

Lab Sample ID: 410-19377-8

Date Collected: 11/03/20 13:10

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 03:46	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 04:09	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 04:17	UMDJ	ELLE
Total/NA	Prep	RSK-175			62483	11/05/20 08:46	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62500	11/05/20 14:21	LXF2	ELLE
Total/NA	Prep	3510C			63426	11/08/20 13:35	DFX4	ELLE
Total/NA	Cleanup	3630C			64039	11/10/20 04:01	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	64416	11/11/20 00:35	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		500	68396	11/20/20 12:00	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/05/20 03:01	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:21	BMB	ELLE

Client Sample ID: DUP-1-WD-201103

Lab Sample ID: 410-19377-9

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 04:08	UCB5	ELLE
Total/NA	Prep	3510C			63887	11/09/20 19:30	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	64441	11/11/20 04:37	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 04:43	UMDJ	ELLE
Total/NA	Prep	RSK-175			62483	11/05/20 08:46	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62500	11/05/20 14:44	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/16/20 22:10	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		250	68396	11/20/20 12:54	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	62107	11/04/20 22:11	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			62230	11/04/20 17:23	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 18:34	BMB	ELLE

Client Sample ID: QA-T-201103

Lab Sample ID: 410-19377-10

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65384	11/13/20 00:27	UCB5	ELLE
Total/NA	Analysis	NWTPH-Gx		1	62207	11/05/20 00:52	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 300.0 R2.1		Water	Nitrogen, Nitrate
EPA 300.0 R2.1		Water	Sulfate
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)
RSK-175	RSK-175	Water	Methane (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19377-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-19377-1	LM-2-W-201103	Water	11/03/20 13:00	11/04/20 10:40	
410-19377-2	MW-139R-W-201103	Water	11/03/20 10:28	11/04/20 10:40	
410-19377-3	MW-502-W-201103	Water	11/03/20 10:30	11/04/20 10:40	
410-19377-4	MW-503-W-201103	Water	11/03/20 12:25	11/04/20 10:40	
410-19377-5	MW-511-W-201103	Water	11/03/20 09:55	11/04/20 10:40	
410-19377-6	MW-512-W-201103	Water	11/03/20 12:10	11/04/20 10:40	
410-19377-7	MW-530-W-201103	Water	11/03/20 12:15	11/04/20 10:40	
410-19377-8	MW-535-W-201103	Water	11/03/20 13:10	11/04/20 10:40	
410-19377-9	DUP-1-WD-201103	Water	11/03/20 00:00	11/04/20 10:40	
410-19377-10	QA-T-201103	Water	11/03/20 00:00	11/04/20 10:40	



Lancaster Laboratories

Acct. # 1 410-19377 Chain of Custody

samples use only
sample # 1276402-19
and with circled numbers

3 / 11/4/20
2308
11/4/20

1 Client Information			4 Matrix			5 Analyses Requested							6 Remarks		
Facility # <u>Edmonds Terminal</u> WBS			Sediment <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/>			Total Number of Containers <u>14</u>							SCR #: _____		
Site Address <u>11720 Unoco Rd, Edmonds, WA</u>			Potable <input type="checkbox"/> Water <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Air <input type="checkbox"/>			<input type="checkbox"/> BTEX+MTBE <input type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphthalin <input type="checkbox"/> <input type="checkbox"/> 8260 full scan Oxygenates NWTPH GX <u>GRD</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>Benzene 8260</u> <u>CPAHs 8270 SIM</u> <u>Manganese by 200.8</u> <u>Nitrate Nitrogen Sulfate</u> <u>Dissolved Methane</u>							<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Chevron PM <u>Kim Jolitz</u> Lead Consultant <u>Arcadis</u>			Composite <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/>			8260 full scan Oxygenates NWTPH GX <u>GRD</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>Benzene 8260</u> <u>CPAHs 8270 SIM</u> <u>Manganese by 200.8</u> <u>Nitrate Nitrogen Sulfate</u> <u>Dissolved Methane</u>							<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Consultant/Office <u>Seattle</u> <u>1100 Olive Way, Ste 800, Seattle</u>			Consultant Project Mgr. <u>Sam Miles</u>			8260 full scan Oxygenates NWTPH GX <u>GRD</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>Benzene 8260</u> <u>CPAHs 8270 SIM</u> <u>Manganese by 200.8</u> <u>Nitrate Nitrogen Sulfate</u> <u>Dissolved Methane</u>							<input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Consultant Phone # <u>(206) 726-4720</u>			Sampler <u>Kiley Zaubi, Dan Gilbert, Julia Vidonish, Michael MacDaniel</u>			8260 full scan Oxygenates NWTPH GX <u>GRD</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>Benzene 8260</u> <u>CPAHs 8270 SIM</u> <u>Manganese by 200.8</u> <u>Nitrate Nitrogen Sulfate</u> <u>Dissolved Methane</u>							<input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
2 Sample Identification			3 Grab												
Collected Date Time			Grab												
<u>LM-2</u> <u>11/3/20</u> <u>1300</u>			<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>		
<u>MW-139R</u> <u>10:28</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-502</u> <u>10:30</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-503</u> <u>12:25</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-511</u> <u>09:55</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-512</u> <u>12:10</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-530</u> <u>12:15</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>MW-535</u> <u>13:10</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>DUP-1</u>			<input type="checkbox"/>										<input type="checkbox"/>		
<u>Trip blank</u>			<input type="checkbox"/>										<input type="checkbox"/>		
7 Turnaround Time Requested (TAT) (please circle)			Relinquished by			Date		Time		Received by		Date		Time	
<input checked="" type="radio"/> Standard 5 day 4 day <input type="radio"/> 72 hour 48 hour 24 hour															
8 Data Package Options (please circle if required)			Relinquished by Commercial Carrier:			Date		Time		Received by		Date		Time	
<input type="radio"/> Type I - Full <input type="radio"/> Type VI (Raw Data)			<input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other									<u>11/4/20</u>		<u>1040</u>	
			Temperature Upon Receipt <u>15</u> <u>10.7</u> °C							Custody Seals Intact?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-19377-1

Login Number: 19377

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-19567-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Mr. Samuel Miles



Authorized for release by:
11/30/2020 11:30:42 AM
Dana Kauffman, Project Manager
Dana.Kauffman@eurofinset.com
Designee for
Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in cursive script, appearing to read "Dana Kauffman".

Dana Kauffman
Project Manager
11/30/2020 11:30:42 AM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Job ID: 410-19567-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-19567-1

Receipt

The samples were received on 11/5/2020 10:25 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.0°C, 1.7°C and 1.8°C

Receipt Exceptions

Eight container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-104-W-201104 (410-19567-2). The container labels list time of 11:18, while the COC lists time of 10:18

Eight container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-104-W-201104MS (410-19567-2[MS]). The container labels list time of 11:23, while the COC lists time of 10:23.

Eight container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-104-W-201104MSD (410-19567-2[MSD]). The container labels list time of 11:28, while the COC lists 10:28.

GC/MS VOA

Method 8260D: The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): MW-513-W-201104 (410-19567-5), MW-525-W-201104 (410-19567-6) and MW-531-W-201104 (410-19567-8). The sample container was received with headspace.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-ER-W-201104 (410-19567-1), MW-104-W-201104 (410-19567-2), MW-104-W-201104DUP (410-19567-2[DUP]), MW-104-W-201104MS (410-19567-2[MS]), MW-129R-W-201104 (410-19567-3), MW-525-W-201104 (410-19567-6), MW-526-W-201104 (410-19567-7), MW-531-W-201104 (410-19567-8), MW-532-W-201104 (410-19567-9) and MW-534-W-201104 (410-19567-11).

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-505-W-201104 (410-19567-4) and MW-513-W-201104 (410-19567-5).

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: DUP-2-WD-201104 (410-19567-12) and DUP-3-WD-201104 (410-19567-13).

Method 300_ORGFMS: The following sample was analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-104-W-201104MSD (410-19567-2[MSD]).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-ER-W-201104

Lab Sample ID: 410-19567-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.23	J	1.0	0.20	ug/L	1		8260D	Total/NA
C7-C12 (1C)	1300		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	16000		500	300	ug/L	100		RSK-175	Total/NA
C12-C24	72	J	110	49	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	1.6	J	5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	7100		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-104-W-201104

Lab Sample ID: 410-19567-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	120	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	200	F1	5.0	3.0	ug/L	1		RSK-175	Total/NA
C12-C24	680	F2 F1	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	640		260	100	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	300		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	2300		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-129R-W-201104

Lab Sample ID: 410-19567-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	67	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1300		50	30	ug/L	10		RSK-175	Total/NA
C12-C24	88	J	110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	110	J	270	110	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	110		20	6.0	mg/L	20		EPA 300.0 R2.1	Total/NA
Manganese	7800		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-505-W-201104

Lab Sample ID: 410-19567-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	31	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	630		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	420		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	3900		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-513-W-201104

Lab Sample ID: 410-19567-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	59	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	280		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	500		100	30	mg/L	100		EPA 300.0 R2.1	Total/NA
Manganese	5700		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-525-W-201104

Lab Sample ID: 410-19567-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.93	J	1.0	0.20	ug/L	1		8260D	Total/NA
C7-C12 (1C)	48	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	540		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	110		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	1100		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-526-W-201104

Lab Sample ID: 410-19567-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	530		250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	53	J	110	48	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	20		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	480		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-531-W-201104

Lab Sample ID: 410-19567-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	49	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	170		5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.34	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	150		20	6.0	mg/L	20		EPA 300.0 R2.1	Total/NA
Manganese	2500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-532-W-201104

Lab Sample ID: 410-19567-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.028	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[a]pyrene	0.013	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[b]fluoranthene	0.031	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Benzo[k]fluoranthene	0.027	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Chrysene	0.025	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
Dibenz(a,h)anthracene	0.023	J	0.079	0.023	ug/L	1		8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.038	J	0.056	0.011	ug/L	1		8270D SIM	Total/NA
C7-C12 (1C)	32	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	5.1		5.0	3.0	ug/L	1		RSK-175	Total/NA
C12-C24	57	J	110	51	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	22		10	3.0	mg/L	10		EPA 300.0 R2.1	Total/NA
Manganese	33		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-533-W-201104

Lab Sample ID: 410-19567-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	45	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Nitrogen, Nitrate	0.43	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	1700		500	150	mg/L	500		EPA 300.0 R2.1	Total/NA

Client Sample ID: MW-534-W-201104

Lab Sample ID: 410-19567-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	29	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1200		25	15	ug/L	5		RSK-175	Total/NA
Sulfate	430		100	30	mg/L	100		EPA 300.0 R2.1	Total/NA
Manganese	4000		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-2-WD-201104

Lab Sample ID: 410-19567-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	520		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	3.3	J	5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	19		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	490		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: DUP-3-WD-201104

Lab Sample ID: 410-19567-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	32	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	200		5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.31	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	180		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	2500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-201104

Lab Sample ID: 410-19567-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	30	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-ER-W-201104

Lab Sample ID: 410-19567-1

Date Collected: 11/04/20 11:15

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.23	J	1.0	0.20	ug/L			11/13/20 13:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					11/13/20 13:36	1
Dibromofluoromethane (Surr)	97		80 - 120					11/13/20 13:36	1
4-Bromofluorobenzene (Surr)	99		80 - 120					11/13/20 13:36	1
Toluene-d8 (Surr)	100		80 - 120					11/13/20 13:36	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Chrysene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		11/11/20 09:30	11/12/20 04:01	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 04:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	92		10 - 122				11/11/20 09:30	11/12/20 04:01	1
1-Methylnaphthalene-d10 (Surr)	112		49 - 115				11/11/20 09:30	11/12/20 04:01	1
Fluoranthene-d10 (Surr)	100		65 - 129				11/11/20 09:30	11/12/20 04:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1300		250	19	ug/L			11/07/20 00:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	107		50 - 150					11/07/20 00:18	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	16000		500	300	ug/L		11/07/20 13:00	11/07/20 18:21	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	105		28 - 140				11/07/20 13:00	11/07/20 18:21	100

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	72	J	110	49	ug/L		11/10/20 09:10	11/16/20 22:33	1
C24-C40	ND		270	110	ug/L		11/10/20 09:10	11/16/20 22:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/10/20 09:10	11/16/20 22:33	1
o-terphenyl (Surr)	63		50 - 150				11/10/20 09:10	11/16/20 22:33	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/06/20 13:47	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-ER-W-201104

Lab Sample ID: 410-19567-1

Date Collected: 11/04/20 11:15

Matrix: Water

Date Received: 11/05/20 10:25

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.6	J	5.0	1.5	mg/L			11/06/20 13:47	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7100		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:54	1

Client Sample ID: MW-104-W-201104

Lab Sample ID: 410-19567-2

Date Collected: 11/04/20 10:18

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	F1	1.0	0.20	ug/L			11/13/20 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		11/13/20 13:59	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 13:59	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 13:59	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 13:59	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	F1	0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1
Benzo[a]pyrene	ND	F1	0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1
Benzo[k]fluoranthene	ND	F1	0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1
Chrysene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1
Dibenz(a,h)anthracene	ND	F1	0.074	0.021	ug/L		11/11/20 09:30	11/12/20 04:31	1
Indeno[1,2,3-cd]pyrene	ND	F1	0.053	0.011	ug/L		11/11/20 09:30	11/12/20 04:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	12		10 - 122	11/11/20 09:30	11/12/20 04:31	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	11/11/20 09:30	11/12/20 04:31	1
Fluoranthene-d10 (Surr)	100		65 - 129	11/11/20 09:30	11/12/20 04:31	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	120	J	250	19	ug/L			11/07/20 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	104		50 - 150		11/07/20 00:43	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	200	F1	5.0	3.0	ug/L		11/06/20 10:49	11/06/20 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	92		28 - 140	11/06/20 10:49	11/06/20 18:17	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	680	F2 F1	100	47	ug/L		11/10/20 09:10	11/16/20 23:18	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-104-W-201104

Lab Sample ID: 410-19567-2

Date Collected: 11/04/20 10:18

Matrix: Water

Date Received: 11/05/20 10:25

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	640		260	100	ug/L		11/10/20 09:10	11/16/20 23:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/16/20 23:18	1
o-terphenyl (Surr)	59		50 - 150	11/10/20 09:10	11/16/20 23:18	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 17:06	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	300		50	15	mg/L			11/18/20 21:07	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2300		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:56	1

Client Sample ID: MW-129R-W-201104

Lab Sample ID: 410-19567-3

Date Collected: 11/04/20 09:50

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		11/13/20 15:30	1
Dibromofluoromethane (Surr)	98		80 - 120		11/13/20 15:30	1
4-Bromofluorobenzene (Surr)	99		80 - 120		11/13/20 15:30	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 15:30	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1
Chrysene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		11/11/20 09:30	11/12/20 05:02	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/12/20 05:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	81		10 - 122	11/11/20 09:30	11/12/20 05:02	1
1-Methylnaphthalene-d10 (Surr)	80		49 - 115	11/11/20 09:30	11/12/20 05:02	1
Fluoranthene-d10 (Surr)	95		65 - 129	11/11/20 09:30	11/12/20 05:02	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	67	J	250	19	ug/L			11/07/20 03:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-129R-W-201104

Lab Sample ID: 410-19567-3

Date Collected: 11/04/20 09:50

Matrix: Water

Date Received: 11/05/20 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	113		50 - 150		11/07/20 03:16	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1300		50	30	ug/L		11/09/20 08:13	11/09/20 11:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	11/09/20 08:13	11/09/20 11:41	10

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	88	J	110	49	ug/L		11/10/20 09:10	11/17/20 00:26	1
C24-C40	110	J	270	110	ug/L		11/10/20 09:10	11/17/20 00:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 00:26	1
o-terphenyl (Surr)	77		50 - 150	11/10/20 09:10	11/17/20 00:26	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 14:05	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		20	6.0	mg/L			11/24/20 14:36	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7800		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:50	1

Client Sample ID: MW-505-W-201104

Lab Sample ID: 410-19567-4

Date Collected: 11/04/20 13:30

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		11/13/20 15:52	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 15:52	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 15:52	1
Toluene-d8 (Surr)	99		80 - 120		11/13/20 15:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1
Chrysene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		11/11/20 09:30	11/12/20 05:33	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 05:33	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-505-W-201104

Lab Sample ID: 410-19567-4

Date Collected: 11/04/20 13:30

Matrix: Water

Date Received: 11/05/20 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	16		10 - 122	11/11/20 09:30	11/12/20 05:33	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	11/11/20 09:30	11/12/20 05:33	1
Fluoranthene-d10 (Surr)	98		65 - 129	11/11/20 09:30	11/12/20 05:33	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	31	J	250	19	ug/L			11/07/20 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	105		50 - 150		11/07/20 03:41	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	630		25	15	ug/L		11/09/20 08:13	11/09/20 12:04	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	83		28 - 140	11/09/20 08:13	11/09/20 12:04	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		11/10/20 09:10	11/17/20 01:35	1
C24-C40	ND		260	100	ug/L		11/10/20 09:10	11/17/20 01:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 01:35	1
o-terphenyl (Surr)	67		50 - 150	11/10/20 09:10	11/17/20 01:35	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 17:52	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	420		50	15	mg/L			11/24/20 21:54	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	3900		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:52	1

Client Sample ID: MW-513-W-201104

Lab Sample ID: 410-19567-5

Date Collected: 11/04/20 14:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 03:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		11/13/20 03:59	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 03:59	1
4-Bromofluorobenzene (Surr)	97		80 - 120		11/13/20 03:59	1
Toluene-d8 (Surr)	99		80 - 120		11/13/20 03:59	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-513-W-201104

Lab Sample ID: 410-19567-5

Date Collected: 11/04/20 14:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1
Chrysene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		11/11/20 09:30	11/12/20 07:05	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	16		10 - 122	11/11/20 09:30	11/12/20 07:05	1
1-Methylnaphthalene-d10 (Surr)	80		49 - 115	11/11/20 09:30	11/12/20 07:05	1
Fluoranthene-d10 (Surr)	93		65 - 129	11/11/20 09:30	11/12/20 07:05	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	59	J	250	19	ug/L			11/07/20 04:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	107		50 - 150		11/07/20 04:07	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	280		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	83		28 - 140	11/06/20 10:49	11/06/20 19:49	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	52	ug/L		11/10/20 09:10	11/17/20 01:57	1
C24-C40	ND		290	110	ug/L		11/10/20 09:10	11/17/20 01:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 01:57	1
o-terphenyl (Surr)	65		50 - 150	11/10/20 09:10	11/17/20 01:57	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 18:09	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	500		100	30	mg/L			11/24/20 14:57	100

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5700		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 17:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-525-W-201104

Lab Sample ID: 410-19567-6

Date Collected: 11/04/20 11:50

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.93	J	1.0	0.20	ug/L			11/13/20 04:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					11/13/20 04:22	1
Dibromofluoromethane (Surr)	98		80 - 120					11/13/20 04:22	1
4-Bromofluorobenzene (Surr)	99		80 - 120					11/13/20 04:22	1
Toluene-d8 (Surr)	99		80 - 120					11/13/20 04:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Chrysene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		11/11/20 09:30	11/12/20 07:35	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 07:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	66		10 - 122				11/11/20 09:30	11/12/20 07:35	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115				11/11/20 09:30	11/12/20 07:35	1
Fluoranthene-d10 (Surr)	115		65 - 129				11/11/20 09:30	11/12/20 07:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	48	J	250	19	ug/L			11/07/20 04:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150					11/07/20 04:33	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	540		25	15	ug/L		11/09/20 08:13	11/09/20 12:22	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	85		28 - 140				11/09/20 08:13	11/09/20 12:22	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		11/10/20 09:10	11/17/20 02:20	1
C24-C40	ND		280	110	ug/L		11/10/20 09:10	11/17/20 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/10/20 09:10	11/17/20 02:20	1
o-terphenyl (Surr)	68		50 - 150				11/10/20 09:10	11/17/20 02:20	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 18:37	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-525-W-201104

Lab Sample ID: 410-19567-6

Date Collected: 11/04/20 11:50

Matrix: Water

Date Received: 11/05/20 10:25

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		50	15	mg/L			11/21/20 14:08	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1100		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 17:16	1

Client Sample ID: MW-526-W-201104

Lab Sample ID: 410-19567-7

Date Collected: 11/04/20 09:30

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 04:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		11/13/20 04:44	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 04:44	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 04:44	1
Toluene-d8 (Surr)	99		80 - 120		11/13/20 04:44	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1
Chrysene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		11/11/20 09:30	11/12/20 08:06	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 08:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	68		10 - 122	11/11/20 09:30	11/12/20 08:06	1
1-Methylnaphthalene-d10 (Surr)	104		49 - 115	11/11/20 09:30	11/12/20 08:06	1
Fluoranthene-d10 (Surr)	125		65 - 129	11/11/20 09:30	11/12/20 08:06	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	530		250	19	ug/L			11/07/20 04:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	108		50 - 150		11/07/20 04:58	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	53		28 - 140	11/06/20 10:49	11/06/20 20:25	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	53	J	110	48	ug/L		11/10/20 09:10	11/17/20 02:43	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-526-W-201104

Lab Sample ID: 410-19567-7

Date Collected: 11/04/20 09:30

Matrix: Water

Date Received: 11/05/20 10:25

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		270	110	ug/L		11/10/20 09:10	11/17/20 02:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/10/20 09:10	11/17/20 02:43	1
<i>o-terphenyl (Surr)</i>	69		50 - 150				11/10/20 09:10	11/17/20 02:43	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 14:23	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20		5.0	1.5	mg/L			11/06/20 14:23	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	480		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 17:08	1

Client Sample ID: MW-531-W-201104

Lab Sample ID: 410-19567-8

Date Collected: 11/04/20 10:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 05:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		80 - 120					11/13/20 05:07	1
<i>Dibromofluoromethane (Surr)</i>	98		80 - 120					11/13/20 05:07	1
<i>4-Bromofluorobenzene (Surr)</i>	99		80 - 120					11/13/20 05:07	1
<i>Toluene-d8 (Surr)</i>	98		80 - 120					11/13/20 05:07	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Chrysene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Dibenz(a,h)anthracene	ND		0.079	0.022	ug/L		11/11/20 09:30	11/12/20 08:37	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/11/20 09:30	11/12/20 08:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	29		10 - 122				11/11/20 09:30	11/12/20 08:37	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	66		49 - 115				11/11/20 09:30	11/12/20 08:37	1
<i>Fluoranthene-d10 (Surr)</i>	77		65 - 129				11/11/20 09:30	11/12/20 08:37	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	49	J	250	19	ug/L			11/07/20 05:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-531-W-201104

Lab Sample ID: 410-19567-8

Date Collected: 11/04/20 10:00

Matrix: Water

Date Received: 11/05/20 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	106		50 - 150		11/07/20 05:24	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	170		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 20:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	55		28 - 140	11/06/20 10:49	11/06/20 20:43	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/10/20 09:10	11/17/20 03:05	1
C24-C40	ND		270	110	ug/L		11/10/20 09:10	11/17/20 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 03:05	1
o-terphenyl (Surr)	76		50 - 150	11/10/20 09:10	11/17/20 03:05	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.34	J H	0.50	0.25	mg/L			11/06/20 14:41	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	150		20	6.0	mg/L			11/24/20 22:49	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2500		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 17:14	1

Client Sample ID: MW-532-W-201104

Lab Sample ID: 410-19567-9

Date Collected: 11/04/20 12:15

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 05:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		11/13/20 05:30	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 05:30	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 05:30	1
Toluene-d8 (Surr)	99		80 - 120		11/13/20 05:30	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.028	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1
Benzo[a]pyrene	0.013	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1
Benzo[b]fluoranthene	0.031	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1
Benzo[k]fluoranthene	0.027	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1
Chrysene	0.025	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1
Dibenz(a,h)anthracene	0.023	J	0.079	0.023	ug/L		11/11/20 09:30	11/12/20 09:07	1
Indeno[1,2,3-cd]pyrene	0.038	J	0.056	0.011	ug/L		11/11/20 09:30	11/12/20 09:07	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-532-W-201104

Lab Sample ID: 410-19567-9

Date Collected: 11/04/20 12:15

Matrix: Water

Date Received: 11/05/20 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	84		10 - 122	11/11/20 09:30	11/12/20 09:07	1
1-Methylnaphthalene-d10 (Surr)	75		49 - 115	11/11/20 09:30	11/12/20 09:07	1
Fluoranthene-d10 (Surr)	92		65 - 129	11/11/20 09:30	11/12/20 09:07	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	32	J	250	19	ug/L			11/07/20 05:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	105		50 - 150		11/07/20 05:49	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	5.1		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	55		28 - 140	11/06/20 10:49	11/06/20 21:02	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	57	J	110	51	ug/L		11/10/20 09:10	11/17/20 03:28	1
C24-C40	ND		280	110	ug/L		11/10/20 09:10	11/17/20 03:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 03:28	1
o-terphenyl (Surr)	85		50 - 150	11/10/20 09:10	11/17/20 03:28	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 20:08	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22		10	3.0	mg/L			11/24/20 23:07	10

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	33		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:36	1

Client Sample ID: MW-533-W-201104

Lab Sample ID: 410-19567-10

Date Collected: 11/04/20 12:02

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 05:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		11/13/20 05:53	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 05:53	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 05:53	1
Toluene-d8 (Surr)	98		80 - 120		11/13/20 05:53	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-533-W-201104

Lab Sample ID: 410-19567-10

Date Collected: 11/04/20 12:02

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1
Chrysene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		11/11/20 09:30	11/12/20 09:38	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/11/20 09:30	11/12/20 09:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	70		10 - 122	11/11/20 09:30	11/12/20 09:38	1
1-Methylnaphthalene-d10 (Surr)	74		49 - 115	11/11/20 09:30	11/12/20 09:38	1
Fluoranthene-d10 (Surr)	90		65 - 129	11/11/20 09:30	11/12/20 09:38	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	45	J	250	19	ug/L			11/07/20 06:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	104		50 - 150		11/07/20 06:15	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	54		28 - 140	11/06/20 10:49	11/06/20 21:38	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		11/10/20 09:10	11/17/20 03:51	1
C24-C40	ND		250	100	ug/L		11/10/20 09:10	11/17/20 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/10/20 09:10	11/17/20 03:51	1
o-terphenyl (Surr)	68		50 - 150	11/10/20 09:10	11/17/20 03:51	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.43	J H	0.50	0.25	mg/L			11/06/20 19:50	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1700		500	150	mg/L			11/25/20 06:46	500

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-534-W-201104

Lab Sample ID: 410-19567-11

Date Collected: 11/04/20 12:40

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 06:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					11/13/20 06:16	1
Dibromofluoromethane (Surr)	98		80 - 120					11/13/20 06:16	1
4-Bromofluorobenzene (Surr)	97		80 - 120					11/13/20 06:16	1
Toluene-d8 (Surr)	99		80 - 120					11/13/20 06:16	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Chrysene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Dibenz(a,h)anthracene	ND		0.075	0.021	ug/L		11/11/20 09:30	11/13/20 00:41	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		11/11/20 09:30	11/13/20 00:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	46		10 - 122				11/11/20 09:30	11/13/20 00:41	1
1-Methylnaphthalene-d10 (Surr)	67		49 - 115				11/11/20 09:30	11/13/20 00:41	1
Fluoranthene-d10 (Surr)	74		65 - 129				11/11/20 09:30	11/13/20 00:41	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	29	J	250	19	ug/L			11/07/20 06:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	103		50 - 150					11/07/20 06:41	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1200		25	15	ug/L		11/09/20 08:13	11/09/20 12:40	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	85		28 - 140				11/09/20 08:13	11/09/20 12:40	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		11/10/20 09:10	11/17/20 04:13	1
C24-C40	ND		260	110	ug/L		11/10/20 09:10	11/17/20 04:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/10/20 09:10	11/17/20 04:13	1
o-terphenyl (Surr)	70		50 - 150				11/10/20 09:10	11/17/20 04:13	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/06/20 20:44	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-534-W-201104

Lab Sample ID: 410-19567-11

Date Collected: 11/04/20 12:40

Matrix: Water

Date Received: 11/05/20 10:25

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	430		100	30	mg/L			11/24/20 15:15	100

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4000		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:40	1

Client Sample ID: DUP-2-WD-201104

Lab Sample ID: 410-19567-12

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 06:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		11/13/20 06:38	1
Dibromofluoromethane (Surr)	97		80 - 120		11/13/20 06:38	1
4-Bromofluorobenzene (Surr)	98		80 - 120		11/13/20 06:38	1
Toluene-d8 (Surr)	99		80 - 120		11/13/20 06:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1
Chrysene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		11/11/20 09:30	11/13/20 01:12	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		11/11/20 09:30	11/13/20 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	64		10 - 122	11/11/20 09:30	11/13/20 01:12	1
1-Methylnaphthalene-d10 (Surr)	102		49 - 115	11/11/20 09:30	11/13/20 01:12	1
Fluoranthene-d10 (Surr)	101		65 - 129	11/11/20 09:30	11/13/20 01:12	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	520		250	19	ug/L			11/07/20 07:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	106		50 - 150		11/07/20 07:06	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	3.3	J	5.0	3.0	ug/L		11/09/20 08:27	11/09/20 09:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	86		28 - 140	11/09/20 08:27	11/09/20 09:42	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		11/10/20 09:10	11/17/20 04:36	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: DUP-2-WD-201104

Lab Sample ID: 410-19567-12

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		260	110	ug/L		11/10/20 09:10	11/17/20 04:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/10/20 09:10	11/17/20 04:36	1
<i>o-terphenyl (Surr)</i>	55		50 - 150				11/10/20 09:10	11/17/20 04:36	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 19:55	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	19		5.0	1.5	mg/L			11/07/20 19:55	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	490		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:42	1

Client Sample ID: DUP-3-WD-201104

Lab Sample ID: 410-19567-13

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 07:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		80 - 120					11/13/20 07:01	1
<i>Dibromofluoromethane (Surr)</i>	97		80 - 120					11/13/20 07:01	1
<i>4-Bromofluorobenzene (Surr)</i>	98		80 - 120					11/13/20 07:01	1
<i>Toluene-d8 (Surr)</i>	99		80 - 120					11/13/20 07:01	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Chrysene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		11/11/20 09:30	11/13/20 01:42	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/11/20 09:30	11/13/20 01:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	35		10 - 122				11/11/20 09:30	11/13/20 01:42	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	73		49 - 115				11/11/20 09:30	11/13/20 01:42	1
<i>Fluoranthene-d10 (Surr)</i>	74		65 - 129				11/11/20 09:30	11/13/20 01:42	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	32	J	250	19	ug/L			11/07/20 07:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: DUP-3-WD-201104

Lab Sample ID: 410-19567-13

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	104		50 - 150		11/07/20 07:32	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	200		5.0	3.0	ug/L		11/07/20 13:00	11/07/20 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Propene (1C)</i>	89		28 - 140	11/07/20 13:00	11/07/20 18:40	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		11/10/20 09:10	11/17/20 04:59	1
C24-C40	ND		280	110	ug/L		11/10/20 09:10	11/17/20 04:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	11/10/20 09:10	11/17/20 04:59	1
<i>o-terphenyl (Surr)</i>	65		50 - 150	11/10/20 09:10	11/17/20 04:59	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.31	J H	0.50	0.25	mg/L			11/07/20 20:12	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	180		50	15	mg/L			11/21/20 14:59	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2500		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:44	1

Client Sample ID: QA-T-201104

Lab Sample ID: 410-19567-14

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/12/20 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		80 - 120		11/12/20 23:03	1
<i>Dibromofluoromethane (Surr)</i>	97		80 - 120		11/12/20 23:03	1
<i>4-Bromofluorobenzene (Surr)</i>	98		80 - 120		11/12/20 23:03	1
<i>Toluene-d8 (Surr)</i>	99		80 - 120		11/12/20 23:03	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	30	J	250	19	ug/L			11/07/20 02:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	103		50 - 150		11/07/20 02:50	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-19567-1	MW-ER-W-201104	99	97	99	100
410-19567-2	MW-104-W-201104	101	97	98	98
410-19567-2 DU	MW-104-W-201104DUP	102	98	98	99
410-19567-2 MS	MW-104-W-201104MS	99	97	99	98
410-19567-2 MSD	MW-104-W-201104MSD	98	95	97	99
410-19567-3	MW-129R-W-201104	100	98	99	98
410-19567-4	MW-505-W-201104	99	97	98	99
410-19567-5	MW-513-W-201104	100	97	97	99
410-19567-6	MW-525-W-201104	99	98	99	99
410-19567-7	MW-526-W-201104	102	97	98	99
410-19567-8	MW-531-W-201104	102	98	99	98
410-19567-9	MW-532-W-201104	99	97	98	99
410-19567-10	MW-533-W-201104	102	97	98	98
410-19567-11	MW-534-W-201104	100	98	97	99
410-19567-12	DUP-2-WD-201104	103	97	98	99
410-19567-13	DUP-3-WD-201104	100	97	98	99
410-19567-14	QA-T-201104	101	97	98	99
LCS 410-65375/5	Lab Control Sample	100	96	98	100
LCS 410-65650/5	Lab Control Sample	99	97	99	99
MB 410-65375/8	Method Blank	100	97	97	100
MB 410-65650/7	Method Blank	98	95	97	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
410-19567-1	MW-ER-W-201104	92	112	100
410-19567-2	MW-104-W-201104	12	85	100
410-19567-2 MS	MW-104-W-201104MS	10	87	101
410-19567-2 MSD	MW-104-W-201104MSD	10	87	102
410-19567-3	MW-129R-W-201104	81	80	95
410-19567-4	MW-505-W-201104	16	85	98
410-19567-5	MW-513-W-201104	16	80	93
410-19567-6	MW-525-W-201104	66	78	115
410-19567-7	MW-526-W-201104	68	104	125
410-19567-8	MW-531-W-201104	29	66	77
410-19567-9	MW-532-W-201104	84	75	92
410-19567-10	MW-533-W-201104	70	74	90
410-19567-11	MW-534-W-201104	46	67	74
410-19567-12	DUP-2-WD-201104	64	102	101
410-19567-13	DUP-3-WD-201104	35	73	74
LCS 410-64582/2-A	Lab Control Sample	94	78	84

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
MB 410-64582/1-A	Method Blank	69	57	77

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-150)
410-19567-1	MW-ER-W-201104	107
410-19567-2	MW-104-W-201104	104
410-19567-2 MS	MW-104-W-201104MS	101
410-19567-2 MSD	MW-104-W-201104MSD	100
410-19567-3	MW-129R-W-201104	113
410-19567-4	MW-505-W-201104	105
410-19567-5	MW-513-W-201104	107
410-19567-6	MW-525-W-201104	78
410-19567-7	MW-526-W-201104	108
410-19567-8	MW-531-W-201104	106
410-19567-9	MW-532-W-201104	105
410-19567-10	MW-533-W-201104	104
410-19567-11	MW-534-W-201104	103
410-19567-12	DUP-2-WD-201104	106
410-19567-13	DUP-3-WD-201104	104
410-19567-14	QA-T-201104	103
LCS 410-63139/6	Lab Control Sample	95
LCSD 410-63139/7	Lab Control Sample Dup	98
MB 410-63139/5	Method Blank	103

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		Propene1 (28-140)
410-19567-1	MW-ER-W-201104	105
410-19567-2	MW-104-W-201104	92
410-19567-2 MS	MW-104-W-201104MS	92
410-19567-2 MSD	MW-104-W-201104MSD	83
410-19567-3	MW-129R-W-201104	87
410-19567-4	MW-505-W-201104	83
410-19567-5	MW-513-W-201104	83
410-19567-6	MW-525-W-201104	85
410-19567-7	MW-526-W-201104	53
410-19567-8	MW-531-W-201104	55

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Propene1 (28-140)	
410-19567-9	MW-532-W-201104	55	
410-19567-10	MW-533-W-201104	54	
410-19567-11	MW-534-W-201104	85	
410-19567-12	DUP-2-WD-201104	86	
410-19567-13	DUP-3-WD-201104	89	
LCS 410-62958/2-A	Lab Control Sample	95	
LCS 410-63294/2-A	Lab Control Sample	98	
LCS 410-63295/2-A	Lab Control Sample	107	
LCS 410-63597/2-A	Lab Control Sample	95	
LCS 410-63615/2-A	Lab Control Sample	99	
LCSD 410-63294/3-A	Lab Control Sample Dup	98	
LCSD 410-63295/3-A	Lab Control Sample Dup	107	
LCSD 410-63597/3-A	Lab Control Sample Dup	92	
MB 410-62958/1-A	Method Blank	99	
MB 410-63294/1-A	Method Blank	95	
MB 410-63295/1-A	Method Blank	105	
MB 410-63597/1-A	Method Blank	95	
MB 410-63615/1-A	Method Blank	101	
Surrogate Legend			
Propene = Propene			

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-19567-1	MW-ER-W-201104	0.3	63
410-19567-1 DU	MW-ER-W-201104	0.3	59
410-19567-2	MW-104-W-201104	0.3	59
410-19567-2 MS	MW-104-W-201104MS	0.4	53
410-19567-2 MSD	MW-104-W-201104MSD	0.4	86
410-19567-3	MW-129R-W-201104	0.3	77
410-19567-3 DU	MW-129R-W-201104	0.3	70
410-19567-4	MW-505-W-201104	0.3	67
410-19567-5	MW-513-W-201104	0.3	65
410-19567-6	MW-525-W-201104	0.3	68
410-19567-7	MW-526-W-201104	0.3	69
410-19567-8	MW-531-W-201104	0.3	76
410-19567-9	MW-532-W-201104	0.3	85
410-19567-10	MW-533-W-201104	0.3	68
410-19567-11	MW-534-W-201104	0.3	70
410-19567-12	DUP-2-WD-201104	0.3	55
410-19567-13	DUP-3-WD-201104	0.3	65
LCS 410-64084/2-B	Lab Control Sample	0.4	53
MB 410-64084/1-B	Method Blank	0.3	67
Surrogate Legend			
NDA = n-Decanoic Acid (Surr)			
OTP = o- terphenyl (Surr)			

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-65375/8
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/12/20 22:00	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					11/12/20 22:00	1
Dibromofluoromethane (Surr)	97		80 - 120					11/12/20 22:00	1
4-Bromofluorobenzene (Surr)	97		80 - 120					11/12/20 22:00	1
Toluene-d8 (Surr)	100		80 - 120					11/12/20 22:00	1

Lab Sample ID: LCS 410-65375/5
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	21.0		ug/L		105	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	100		80 - 120				
Dibromofluoromethane (Surr)	96		80 - 120				
4-Bromofluorobenzene (Surr)	98		80 - 120				
Toluene-d8 (Surr)	100		80 - 120				

Lab Sample ID: MB 410-65650/7
Matrix: Water
Analysis Batch: 65650

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/13/20 12:17	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		80 - 120					11/13/20 12:17	1
Dibromofluoromethane (Surr)	95		80 - 120					11/13/20 12:17	1
4-Bromofluorobenzene (Surr)	97		80 - 120					11/13/20 12:17	1
Toluene-d8 (Surr)	99		80 - 120					11/13/20 12:17	1

Lab Sample ID: LCS 410-65650/5
Matrix: Water
Analysis Batch: 65650

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	22.5		ug/L		113	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	97		80 - 120				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Toluene-d8 (Surr)	99		80 - 120				

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 65650

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzene	ND	F1	20.0	24.1		ug/L		120	80 - 120	
Surrogate	%Recovery	MS Qualifier	MS Limits							
1,2-Dichloroethane-d4 (Surr)	99		80 - 120							
Dibromofluoromethane (Surr)	97		80 - 120							
4-Bromofluorobenzene (Surr)	99		80 - 120							
Toluene-d8 (Surr)	98		80 - 120							

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 65650

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND	F1	20.0	24.5	F1	ug/L		123	80 - 120	2	30
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	98		80 - 120								
Dibromofluoromethane (Surr)	95		80 - 120								
4-Bromofluorobenzene (Surr)	97		80 - 120								
Toluene-d8 (Surr)	99		80 - 120								

Lab Sample ID: 410-19567-2 DU
Matrix: Water
Analysis Batch: 65650

Client Sample ID: MW-104-W-201104DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Benzene	ND	F1	ND		ug/L		NC	30
Surrogate	%Recovery	DU Qualifier	DU Limits					
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					
Dibromofluoromethane (Surr)	98		80 - 120					
4-Bromofluorobenzene (Surr)	98		80 - 120					
Toluene-d8 (Surr)	99		80 - 120					

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-64582/1-A
Matrix: Water
Analysis Batch: 64936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1
Chrysene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/11/20 09:30	11/11/20 23:25	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		11/11/20 09:30	11/11/20 23:25	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

<i>Surrogate</i>	<i>MB MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i> <i>Qualifier</i>				
<i>Benzo(a)pyrene-d12 (Surr)</i>	69	10 - 122	11/11/20 09:30	11/11/20 23:25	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	57	49 - 115	11/11/20 09:30	11/11/20 23:25	1
<i>Fluoranthene-d10 (Surr)</i>	77	65 - 129	11/11/20 09:30	11/11/20 23:25	1

Lab Sample ID: LCS 410-64582/2-A
Matrix: Water
Analysis Batch: 64936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64582

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Benzo[a]anthracene	1.00	1.02		ug/L		102	69 - 119
Benzo[a]pyrene	1.00	0.963		ug/L		96	73 - 117
Benzo[b]fluoranthene	1.00	1.02		ug/L		102	72 - 123
Benzo[k]fluoranthene	1.00	0.957		ug/L		96	66 - 124
Chrysene	1.00	0.985		ug/L		99	61 - 117
Dibenz(a,h)anthracene	1.00	0.911		ug/L		91	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	1.08		ug/L		108	57 - 134

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
<i>Benzo(a)pyrene-d12 (Surr)</i>	94		10 - 122
<i>1-Methylnaphthalene-d10 (Surr)</i>	78		49 - 115
<i>Fluoranthene-d10 (Surr)</i>	84		65 - 129

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 64936

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA
Prep Batch: 64582

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Benzo[a]anthracene	ND	F1	1.03	0.682	F1	ug/L		66	69 - 119
Benzo[a]pyrene	ND	F1	1.03	0.236	F1	ug/L		23	73 - 117
Benzo[b]fluoranthene	ND		1.03	0.810		ug/L		79	72 - 123
Benzo[k]fluoranthene	ND	F1	1.03	0.724		ug/L		70	66 - 124
Chrysene	ND		1.03	0.882		ug/L		86	61 - 117
Dibenz(a,h)anthracene	ND	F1	1.03	0.602	F1	ug/L		59	60 - 118
Indeno[1,2,3-cd]pyrene	ND	F1	1.03	0.472	F1	ug/L		46	57 - 134

<i>Surrogate</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
<i>Benzo(a)pyrene-d12 (Surr)</i>	10		10 - 122
<i>1-Methylnaphthalene-d10 (Surr)</i>	87		49 - 115
<i>Fluoranthene-d10 (Surr)</i>	101		65 - 129

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 64936

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA
Prep Batch: 64582

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>Limit</i>
Benzo[a]anthracene	ND	F1	1.02	0.614	F1	ug/L		60	69 - 119	11	30
Benzo[a]pyrene	ND	F1	1.02	0.211	F1	ug/L		21	73 - 117	11	30
Benzo[b]fluoranthene	ND		1.02	0.880		ug/L		86	72 - 123	8	30
Benzo[k]fluoranthene	ND	F1	1.02	0.557	F1	ug/L		55	66 - 124	26	30
Chrysene	ND		1.02	0.888		ug/L		87	61 - 117	1	30
Dibenz(a,h)anthracene	ND	F1	1.02	0.509	F1	ug/L		50	60 - 118	17	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 64936

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA
Prep Batch: 64582

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene	ND	F1	1.02	0.389	F1	ug/L		38	57 - 134	19	30
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
Benzo(a)pyrene-d12 (Surr)	10		10 - 122								
1-Methylnaphthalene-d10 (Surr)	87		49 - 115								
Fluoranthene-d10 (Surr)	102		65 - 129								

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-63139/5
Matrix: Water
Analysis Batch: 63139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
C7-C12 (1C)	ND		250	19	ug/L			11/06/20 20:28	1	
Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac				
a,a,a-Trifluorotoluene (fid) (1C)	103		50 - 150		11/06/20 20:28	1				

Lab Sample ID: LCS 410-63139/6
Matrix: Water
Analysis Batch: 63139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C7-C12 (1C)	1100	1150		ug/L		105	64 - 131		
Surrogate	%Recovery	LCS Qualifier	LCS Limits						
a,a,a-Trifluorotoluene (fid) (1C)	95		50 - 150						

Lab Sample ID: LCSD 410-63139/7
Matrix: Water
Analysis Batch: 63139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1200		ug/L		109	64 - 131	4	30
Surrogate	%Recovery	LCSD Qualifier	LCSD Limits						
a,a,a-Trifluorotoluene (fid) (1C)	98		50 - 150						

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 63139

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C7-C12 (1C)	120	J	1120	1340		ug/L		110	80 - 120		

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-19567-2 MS

Matrix: Water

Analysis Batch: 63139

Client Sample ID: MW-104-W-201104MS

Prep Type: Total/NA

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	101		50 - 150

Lab Sample ID: 410-19567-2 MSD

Matrix: Water

Analysis Batch: 63139

Client Sample ID: MW-104-W-201104MSD

Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
C7-C12 (1C)	120	J	1120	1360		ug/L		111	80 - 120	1	30

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	100		50 - 150

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-62958/1-A

Matrix: Water

Analysis Batch: 62980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 62958

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Methane (1C)	ND		5.0	3.0	ug/L		11/06/20 10:49	11/06/20 15:52	1

	<i>MB</i>	<i>MB</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
<i>Propene (1C)</i>	99		28 - 140	11/06/20 10:49	11/06/20 15:52	1

Lab Sample ID: LCS 410-62958/2-A

Matrix: Water

Analysis Batch: 62980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 62958

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Methane (1C)	59.4	60.7		ug/L		102	85 - 115

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Propene (1C)</i>	95		28 - 140

Lab Sample ID: 410-19567-2 MS

Matrix: Water

Analysis Batch: 62980

Client Sample ID: MW-104-W-201104MS

Prep Type: Total/NA

Prep Batch: 62958

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Methane (1C)	200	F1	59.4	265		ug/L		114	73 - 125

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Propene (1C)</i>	92		28 - 140

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 62980

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA
Prep Batch: 62958

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Methane (1C)	200	F1	59.4	196	F1	ug/L		-2	73 - 125	30		30
Surrogate	%Recovery	Qualifier	Limits									
Propene (1C)	83		28 - 140									

Lab Sample ID: MB 410-63294/1-A
Matrix: Water
Analysis Batch: 63302

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63294

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane (1C)	ND		5.0	3.0	ug/L		11/07/20 13:00	11/07/20 13:13	1
Surrogate	%Recovery	Qualifier	Limits						
Propene (1C)	95		28 - 140						
							Prepared	Analyzed	Dil Fac
							11/07/20 13:00	11/07/20 13:13	1

Lab Sample ID: LCS 410-63294/2-A
Matrix: Water
Analysis Batch: 63302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63294

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Methane (1C)	59.4	62.6		ug/L		105	85 - 115	
Surrogate	%Recovery	Qualifier	Limits					
Propene (1C)	98		28 - 140					

Lab Sample ID: LCSD 410-63294/3-A
Matrix: Water
Analysis Batch: 63302

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63294

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Methane (1C)	59.4	61.6		ug/L		104	85 - 115	1	20	
Surrogate	%Recovery	Qualifier	Limits							
Propene (1C)	98		28 - 140							

Lab Sample ID: MB 410-63295/1-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63295

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane (1C)	ND		5.0	3.0	ug/L		11/07/20 13:00	11/07/20 13:13	1
Surrogate	%Recovery	Qualifier	Limits						
Propene (1C)	105		28 - 140						
							Prepared	Analyzed	Dil Fac
							11/07/20 13:00	11/07/20 13:13	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 410-63295/2-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	65.4		ug/L		110	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	107		28 - 140				

Lab Sample ID: LCSD 410-63295/3-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63295

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	66.1		ug/L		111	85 - 115	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	107		28 - 140						

Lab Sample ID: MB 410-63597/1-A
Matrix: Water
Analysis Batch: 63635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/09/20 08:13	11/09/20 08:54	1
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	95		28 - 140	11/09/20 08:13	11/09/20 08:54	1			

Lab Sample ID: LCS 410-63597/2-A
Matrix: Water
Analysis Batch: 63635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	59.2		ug/L		100	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	95		28 - 140				

Lab Sample ID: LCSD 410-63597/3-A
Matrix: Water
Analysis Batch: 63635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63597

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	59.9		ug/L		101	85 - 115	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Propene (1C)	92		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 410-63615/1-A
Matrix: Water
Analysis Batch: 63642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/09/20 08:27	11/09/20 08:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	101		28 - 140				11/09/20 08:27	11/09/20 08:54	1

Lab Sample ID: LCS 410-63615/2-A
Matrix: Water
Analysis Batch: 63642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	62.8		ug/L		106	85 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Propene (1C)	99		28 - 140				

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-64084/1-B
Matrix: Water
Analysis Batch: 66652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64084

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		11/10/20 09:10	11/16/20 21:25	1
C24-C40	ND		250	100	ug/L		11/10/20 09:10	11/16/20 21:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/10/20 09:10	11/16/20 21:25	1
o-terphenyl (Surr)	67		50 - 150				11/10/20 09:10	11/16/20 21:25	1

Lab Sample ID: LCS 410-64084/2-B
Matrix: Water
Analysis Batch: 66652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	603	121		ug/L		20	10 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
n-Decanoic Acid (Surr)	0.4		0 - 1				
o-terphenyl (Surr)	53		50 - 150				

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 66652

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA
Prep Batch: 64084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	680	F2 F1	614	1990	F1	ug/L		214	30 - 115

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-19567-2 MS

Matrix: Water

Analysis Batch: 66652

Client Sample ID: MW-104-W-201104MS

Prep Type: Total/NA

Prep Batch: 64084

Surrogate	%Recovery	MS MS Qualifier	Limits
n-Decanoic Acid (Surr)	0.4		0 - 1
o-terphenyl (Surr)	53		50 - 150

Lab Sample ID: 410-19567-2 MSD

Matrix: Water

Analysis Batch: 66652

Client Sample ID: MW-104-W-201104MSD

Prep Type: Total/NA

Prep Batch: 64084

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit												
C12-C24	680	F2 F1	606	252	F2 F1	ug/L		-70	30 - 115	155	20												
<table border="1"> <thead> <tr> <th>Surrogate</th> <th>%Recovery</th> <th>MSD MSD Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>n-Decanoic Acid (Surr)</td> <td>0.4</td> <td></td> <td>0 - 1</td> </tr> <tr> <td>o-terphenyl (Surr)</td> <td>86</td> <td></td> <td>50 - 150</td> </tr> </tbody> </table>												Surrogate	%Recovery	MSD MSD Qualifier	Limits	n-Decanoic Acid (Surr)	0.4		0 - 1	o-terphenyl (Surr)	86		50 - 150
Surrogate	%Recovery	MSD MSD Qualifier	Limits																				
n-Decanoic Acid (Surr)	0.4		0 - 1																				
o-terphenyl (Surr)	86		50 - 150																				

Lab Sample ID: 410-19567-1 DU

Matrix: Water

Analysis Batch: 66652

Client Sample ID: MW-ER-W-201104

Prep Type: Total/NA

Prep Batch: 64084

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit												
C12-C24	72	J	248	F3	ug/L		110	20												
C24-C40	ND		1270		ug/L		NC	20												
<table border="1"> <thead> <tr> <th>Surrogate</th> <th>%Recovery</th> <th>DU DU Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>n-Decanoic Acid (Surr)</td> <td>0.3</td> <td></td> <td>0 - 1</td> </tr> <tr> <td>o-terphenyl (Surr)</td> <td>59</td> <td></td> <td>50 - 150</td> </tr> </tbody> </table>									Surrogate	%Recovery	DU DU Qualifier	Limits	n-Decanoic Acid (Surr)	0.3		0 - 1	o-terphenyl (Surr)	59		50 - 150
Surrogate	%Recovery	DU DU Qualifier	Limits																	
n-Decanoic Acid (Surr)	0.3		0 - 1																	
o-terphenyl (Surr)	59		50 - 150																	

Lab Sample ID: 410-19567-3 DU

Matrix: Water

Analysis Batch: 66652

Client Sample ID: MW-129R-W-201104

Prep Type: Total/NA

Prep Batch: 64084

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit												
C12-C24	88	J	58.3	J F5	ug/L		40	20												
C24-C40	110	J	ND		ug/L		NC	20												
<table border="1"> <thead> <tr> <th>Surrogate</th> <th>%Recovery</th> <th>DU DU Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>n-Decanoic Acid (Surr)</td> <td>0.3</td> <td></td> <td>0 - 1</td> </tr> <tr> <td>o-terphenyl (Surr)</td> <td>70</td> <td></td> <td>50 - 150</td> </tr> </tbody> </table>									Surrogate	%Recovery	DU DU Qualifier	Limits	n-Decanoic Acid (Surr)	0.3		0 - 1	o-terphenyl (Surr)	70		50 - 150
Surrogate	%Recovery	DU DU Qualifier	Limits																	
n-Decanoic Acid (Surr)	0.3		0 - 1																	
o-terphenyl (Surr)	70		50 - 150																	

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63040/4

Matrix: Water

Analysis Batch: 63040

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	0.10	0.050	mg/L			11/06/20 10:32	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 410-63040/3
Matrix: Water
Analysis Batch: 63040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.733		mg/L		98	90 - 110

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 63040

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H	2.50	2.53	H	mg/L		101	90 - 110

Lab Sample ID: 410-19567-2 DU
Matrix: Water
Analysis Batch: 63040

Client Sample ID: MW-104-W-201104DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H	0.326	J H	mg/L		NC	15

Lab Sample ID: MB 410-63129/4
Matrix: Water
Analysis Batch: 63129

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/06/20 15:53	1

Lab Sample ID: LCS 410-63129/3
Matrix: Water
Analysis Batch: 63129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.712		mg/L		95	90 - 110

Lab Sample ID: MB 410-63706/4
Matrix: Water
Analysis Batch: 63706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/07/20 12:15	1

Lab Sample ID: LCS 410-63706/3
Matrix: Water
Analysis Batch: 63706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.720		mg/L		96	90 - 110

Lab Sample ID: MB 410-68883/4
Matrix: Water
Analysis Batch: 68883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/21/20 05:41	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: LCS 410-68883/3
Matrix: Water
Analysis Batch: 68883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.718		mg/L		96	90 - 110

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 68883

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate	ND	H F1	2.50	3.00	H F1	mg/L		120	90 - 110	NC	20

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63041/4
Matrix: Water
Analysis Batch: 63041

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/06/20 10:32	1

Lab Sample ID: LCS 410-63041/3
Matrix: Water
Analysis Batch: 63041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.54		mg/L		100	90 - 110

Lab Sample ID: MB 410-63707/4
Matrix: Water
Analysis Batch: 63707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/07/20 12:15	1

Lab Sample ID: LCS 410-63707/3
Matrix: Water
Analysis Batch: 63707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	6.98		mg/L		93	90 - 110

Lab Sample ID: MB 410-67404/4
Matrix: Water
Analysis Batch: 67404

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/18/20 13:38	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 410-67404/3
Matrix: Water
Analysis Batch: 67404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.53		mg/L		100	90 - 110

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 67404

Client Sample ID: MW-104-W-201104MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	300		250	570		mg/L		108	90 - 110

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 67404

Client Sample ID: MW-104-W-201104MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	300		250	574		mg/L		110	90 - 110	1	20

Lab Sample ID: 410-19567-2 DU
Matrix: Water
Analysis Batch: 67404

Client Sample ID: MW-104-W-201104DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	300		250	296		mg/L				1	15

Lab Sample ID: MB 410-68932/4
Matrix: Water
Analysis Batch: 68932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/21/20 12:43	1

Lab Sample ID: LCS 410-68932/3
Matrix: Water
Analysis Batch: 68932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.52		mg/L		100	90 - 110

Lab Sample ID: MB 410-69823/4
Matrix: Water
Analysis Batch: 69823

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/24/20 08:38	1

Lab Sample ID: LCS 410-69823/3
Matrix: Water
Analysis Batch: 69823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.22		mg/L		96	90 - 110

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-69971/4
Matrix: Water
Analysis Batch: 69971

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/24/20 05:21	1

Lab Sample ID: LCS 410-69971/3
Matrix: Water
Analysis Batch: 69971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.36		mg/L		98	90 - 110

Lab Sample ID: MB 410-70074/4
Matrix: Water
Analysis Batch: 70074

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/24/20 19:30	1

Lab Sample ID: LCS 410-70074/3
Matrix: Water
Analysis Batch: 70074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.75		mg/L		103	90 - 110

Lab Sample ID: MB 410-70263/4
Matrix: Water
Analysis Batch: 70263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/25/20 04:40	1

Lab Sample ID: LCS 410-70263/3
Matrix: Water
Analysis Batch: 70263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.49		mg/L		100	90 - 110

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-63961/1-A
Matrix: Water
Analysis Batch: 66072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63961

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:36	11/14/20 10:01	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-63961/2-A
Matrix: Water
Analysis Batch: 66072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63961

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	20.3		ug/L		102	85 - 115

Lab Sample ID: MB 410-63963/1-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 16:50	1

Lab Sample ID: LCS 410-63963/2-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	20.9		ug/L		105	85 - 115

Lab Sample ID: 410-19567-2 MS
Matrix: Water
Analysis Batch: 66072

Client Sample ID: MW-104-W-201104MS
Prep Type: Dissolved
Prep Batch: 63961

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	2300		20.0	2250	4	ug/L		-275	70 - 130

Lab Sample ID: 410-19567-2 MSD
Matrix: Water
Analysis Batch: 66072

Client Sample ID: MW-104-W-201104MSD
Prep Type: Dissolved
Prep Batch: 63961

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	2300		20.0	2340	4	ug/L		187	70 - 130	4	20

Lab Sample ID: 410-19567-2 DU
Matrix: Water
Analysis Batch: 66072

Client Sample ID: MW-104-W-201104DUP
Prep Type: Dissolved
Prep Batch: 63961

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	2300		2350		ug/L		2	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

GC/MS VOA

Analysis Batch: 65375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-5	MW-513-W-201104	Total/NA	Water	8260D	
410-19567-6	MW-525-W-201104	Total/NA	Water	8260D	
410-19567-7	MW-526-W-201104	Total/NA	Water	8260D	
410-19567-8	MW-531-W-201104	Total/NA	Water	8260D	
410-19567-9	MW-532-W-201104	Total/NA	Water	8260D	
410-19567-10	MW-533-W-201104	Total/NA	Water	8260D	
410-19567-11	MW-534-W-201104	Total/NA	Water	8260D	
410-19567-12	DUP-2-WD-201104	Total/NA	Water	8260D	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	8260D	
410-19567-14	QA-T-201104	Total/NA	Water	8260D	
MB 410-65375/8	Method Blank	Total/NA	Water	8260D	
LCS 410-65375/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 65650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	8260D	
410-19567-2	MW-104-W-201104	Total/NA	Water	8260D	
410-19567-3	MW-129R-W-201104	Total/NA	Water	8260D	
410-19567-4	MW-505-W-201104	Total/NA	Water	8260D	
MB 410-65650/7	Method Blank	Total/NA	Water	8260D	
LCS 410-65650/5	Lab Control Sample	Total/NA	Water	8260D	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	8260D	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	8260D	
410-19567-2 DU	MW-104-W-201104DUP	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 64582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	3510C	
410-19567-2	MW-104-W-201104	Total/NA	Water	3510C	
410-19567-3	MW-129R-W-201104	Total/NA	Water	3510C	
410-19567-4	MW-505-W-201104	Total/NA	Water	3510C	
410-19567-5	MW-513-W-201104	Total/NA	Water	3510C	
410-19567-6	MW-525-W-201104	Total/NA	Water	3510C	
410-19567-7	MW-526-W-201104	Total/NA	Water	3510C	
410-19567-8	MW-531-W-201104	Total/NA	Water	3510C	
410-19567-9	MW-532-W-201104	Total/NA	Water	3510C	
410-19567-10	MW-533-W-201104	Total/NA	Water	3510C	
410-19567-11	MW-534-W-201104	Total/NA	Water	3510C	
410-19567-12	DUP-2-WD-201104	Total/NA	Water	3510C	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	3510C	
MB 410-64582/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-64582/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	3510C	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	3510C	

Analysis Batch: 64936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-2	MW-104-W-201104	Total/NA	Water	8270D SIM	64582

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

GC/MS Semi VOA (Continued)

Analysis Batch: 64936 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-3	MW-129R-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-4	MW-505-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-5	MW-513-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-6	MW-525-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-7	MW-526-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-8	MW-531-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-9	MW-532-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-10	MW-533-W-201104	Total/NA	Water	8270D SIM	64582
MB 410-64582/1-A	Method Blank	Total/NA	Water	8270D SIM	64582
LCS 410-64582/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	64582
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	8270D SIM	64582
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	8270D SIM	64582

Analysis Batch: 65226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-11	MW-534-W-201104	Total/NA	Water	8270D SIM	64582
410-19567-12	DUP-2-WD-201104	Total/NA	Water	8270D SIM	64582
410-19567-13	DUP-3-WD-201104	Total/NA	Water	8270D SIM	64582

GC VOA

Prep Batch: 62958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-2	MW-104-W-201104	Total/NA	Water	RSK-175	
410-19567-5	MW-513-W-201104	Total/NA	Water	RSK-175	
410-19567-7	MW-526-W-201104	Total/NA	Water	RSK-175	
410-19567-8	MW-531-W-201104	Total/NA	Water	RSK-175	
410-19567-9	MW-532-W-201104	Total/NA	Water	RSK-175	
410-19567-10	MW-533-W-201104	Total/NA	Water	RSK-175	
MB 410-62958/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-62958/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	RSK-175	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	RSK-175	

Analysis Batch: 62980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-2	MW-104-W-201104	Total/NA	Water	RSK-175	62958
410-19567-5	MW-513-W-201104	Total/NA	Water	RSK-175	62958
410-19567-7	MW-526-W-201104	Total/NA	Water	RSK-175	62958
410-19567-8	MW-531-W-201104	Total/NA	Water	RSK-175	62958
410-19567-9	MW-532-W-201104	Total/NA	Water	RSK-175	62958
410-19567-10	MW-533-W-201104	Total/NA	Water	RSK-175	62958
MB 410-62958/1-A	Method Blank	Total/NA	Water	RSK-175	62958
LCS 410-62958/2-A	Lab Control Sample	Total/NA	Water	RSK-175	62958
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	RSK-175	62958
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	RSK-175	62958

Analysis Batch: 63139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-2	MW-104-W-201104	Total/NA	Water	NWTPH-Gx	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

GC VOA (Continued)

Analysis Batch: 63139 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-3	MW-129R-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-4	MW-505-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-5	MW-513-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-6	MW-525-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-7	MW-526-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-8	MW-531-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-9	MW-532-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-10	MW-533-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-11	MW-534-W-201104	Total/NA	Water	NWTPH-Gx	
410-19567-12	DUP-2-WD-201104	Total/NA	Water	NWTPH-Gx	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	NWTPH-Gx	
410-19567-14	QA-T-201104	Total/NA	Water	NWTPH-Gx	
MB 410-63139/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-63139/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-63139/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	NWTPH-Gx	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	NWTPH-Gx	

Prep Batch: 63294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-13	DUP-3-WD-201104	Total/NA	Water	RSK-175	
MB 410-63294/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63294/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-63294/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Prep Batch: 63295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	RSK-175	
MB 410-63295/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63295/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-63295/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 63298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	RSK-175	63295
MB 410-63295/1-A	Method Blank	Total/NA	Water	RSK-175	63295
LCS 410-63295/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63295
LCSD 410-63295/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	63295

Analysis Batch: 63302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-13	DUP-3-WD-201104	Total/NA	Water	RSK-175	63294
MB 410-63294/1-A	Method Blank	Total/NA	Water	RSK-175	63294
LCS 410-63294/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63294
LCSD 410-63294/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	63294

Prep Batch: 63597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-3	MW-129R-W-201104	Total/NA	Water	RSK-175	
410-19567-4	MW-505-W-201104	Total/NA	Water	RSK-175	
410-19567-6	MW-525-W-201104	Total/NA	Water	RSK-175	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

GC VOA (Continued)

Prep Batch: 63597 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-11	MW-534-W-201104	Total/NA	Water	RSK-175	
MB 410-63597/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63597/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-63597/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Prep Batch: 63615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-12	DUP-2-WD-201104	Total/NA	Water	RSK-175	
MB 410-63615/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63615/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 63635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-3	MW-129R-W-201104	Total/NA	Water	RSK-175	63597
410-19567-4	MW-505-W-201104	Total/NA	Water	RSK-175	63597
410-19567-6	MW-525-W-201104	Total/NA	Water	RSK-175	63597
410-19567-11	MW-534-W-201104	Total/NA	Water	RSK-175	63597
MB 410-63597/1-A	Method Blank	Total/NA	Water	RSK-175	63597
LCS 410-63597/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63597
LCSD 410-63597/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	63597

Analysis Batch: 63642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-12	DUP-2-WD-201104	Total/NA	Water	RSK-175	63615
MB 410-63615/1-A	Method Blank	Total/NA	Water	RSK-175	63615
LCS 410-63615/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63615

GC Semi VOA

Prep Batch: 64084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	3510C	
410-19567-2	MW-104-W-201104	Total/NA	Water	3510C	
410-19567-3	MW-129R-W-201104	Total/NA	Water	3510C	
410-19567-4	MW-505-W-201104	Total/NA	Water	3510C	
410-19567-5	MW-513-W-201104	Total/NA	Water	3510C	
410-19567-6	MW-525-W-201104	Total/NA	Water	3510C	
410-19567-7	MW-526-W-201104	Total/NA	Water	3510C	
410-19567-8	MW-531-W-201104	Total/NA	Water	3510C	
410-19567-9	MW-532-W-201104	Total/NA	Water	3510C	
410-19567-10	MW-533-W-201104	Total/NA	Water	3510C	
410-19567-11	MW-534-W-201104	Total/NA	Water	3510C	
410-19567-12	DUP-2-WD-201104	Total/NA	Water	3510C	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	3510C	
MB 410-64084/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	3510C	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	3510C	
410-19567-1 DU	MW-ER-W-201104	Total/NA	Water	3510C	
410-19567-3 DU	MW-129R-W-201104	Total/NA	Water	3510C	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

GC Semi VOA

Cleanup Batch: 65528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	3630C	64084
410-19567-2	MW-104-W-201104	Total/NA	Water	3630C	64084
410-19567-3	MW-129R-W-201104	Total/NA	Water	3630C	64084
410-19567-4	MW-505-W-201104	Total/NA	Water	3630C	64084
410-19567-5	MW-513-W-201104	Total/NA	Water	3630C	64084
410-19567-6	MW-525-W-201104	Total/NA	Water	3630C	64084
410-19567-7	MW-526-W-201104	Total/NA	Water	3630C	64084
410-19567-8	MW-531-W-201104	Total/NA	Water	3630C	64084
410-19567-9	MW-532-W-201104	Total/NA	Water	3630C	64084
410-19567-10	MW-533-W-201104	Total/NA	Water	3630C	64084
410-19567-11	MW-534-W-201104	Total/NA	Water	3630C	64084
410-19567-12	DUP-2-WD-201104	Total/NA	Water	3630C	64084
410-19567-13	DUP-3-WD-201104	Total/NA	Water	3630C	64084
MB 410-64084/1-B	Method Blank	Total/NA	Water	3630C	64084
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	3630C	64084
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	3630C	64084
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	3630C	64084
410-19567-1 DU	MW-ER-W-201104	Total/NA	Water	3630C	64084
410-19567-3 DU	MW-129R-W-201104	Total/NA	Water	3630C	64084

Analysis Batch: 66652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-2	MW-104-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-3	MW-129R-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-4	MW-505-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-5	MW-513-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-6	MW-525-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-7	MW-526-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-8	MW-531-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-9	MW-532-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-10	MW-533-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-11	MW-534-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-12	DUP-2-WD-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-13	DUP-3-WD-201104	Total/NA	Water	NWTPH-Dx	65528
MB 410-64084/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	65528
LCS 410-64084/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	65528
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	NWTPH-Dx	65528
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	NWTPH-Dx	65528
410-19567-1 DU	MW-ER-W-201104	Total/NA	Water	NWTPH-Dx	65528
410-19567-3 DU	MW-129R-W-201104	Total/NA	Water	NWTPH-Dx	65528

HPLC/IC

Analysis Batch: 63040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2	MW-104-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-3	MW-129R-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-6	MW-525-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-7	MW-526-W-201104	Total/NA	Water	EPA 300.0 R2.1	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

HPLC/IC (Continued)

Analysis Batch: 63040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-8	MW-531-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-9	MW-532-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-10	MW-533-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-11	MW-534-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63040/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63040/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 DU	MW-104-W-201104DUP	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-7	MW-526-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63041/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63041/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-4	MW-505-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-5	MW-513-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63129/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63129/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-12	DUP-2-WD-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63706/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63706/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-12	DUP-2-WD-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63707/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63707/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 67404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-2	MW-104-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-67404/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-67404/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 MS	MW-104-W-201104MS	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 DU	MW-104-W-201104DUP	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 68883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-68883/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-68883/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19567-2 MSD	MW-104-W-201104MSD	Total/NA	Water	EPA 300.0 R2.1	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

HPLC/IC

Analysis Batch: 68932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-6	MW-525-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-13	DUP-3-WD-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-68932/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-68932/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 69823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-5	MW-513-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-11	MW-534-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-69823/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-69823/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 69971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-3	MW-129R-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-69971/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-69971/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 70074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-4	MW-505-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-8	MW-531-W-201104	Total/NA	Water	EPA 300.0 R2.1	
410-19567-9	MW-532-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-70074/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-70074/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 70263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-10	MW-533-W-201104	Total/NA	Water	EPA 300.0 R2.1	
MB 410-70263/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-70263/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 63961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-2	MW-104-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-3	MW-129R-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-4	MW-505-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-9	MW-532-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-10	MW-533-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-11	MW-534-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-12	DUP-2-WD-201104	Dissolved	Water	Non-Digest Prep	
410-19567-13	DUP-3-WD-201104	Dissolved	Water	Non-Digest Prep	
MB 410-63961/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-63961/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-19567-2 MS	MW-104-W-201104MS	Dissolved	Water	Non-Digest Prep	
410-19567-2 MSD	MW-104-W-201104MSD	Dissolved	Water	Non-Digest Prep	
410-19567-2 DU	MW-104-W-201104DUP	Dissolved	Water	Non-Digest Prep	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Metals

Prep Batch: 63963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-5	MW-513-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-6	MW-525-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-7	MW-526-W-201104	Dissolved	Water	Non-Digest Prep	
410-19567-8	MW-531-W-201104	Dissolved	Water	Non-Digest Prep	
MB 410-63963/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-63963/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 65569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-5	MW-513-W-201104	Dissolved	Water	200.8 Rev 5.4	63963
410-19567-6	MW-525-W-201104	Dissolved	Water	200.8 Rev 5.4	63963
410-19567-7	MW-526-W-201104	Dissolved	Water	200.8 Rev 5.4	63963
410-19567-8	MW-531-W-201104	Dissolved	Water	200.8 Rev 5.4	63963
MB 410-63963/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	63963
LCS 410-63963/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	63963

Analysis Batch: 66072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19567-1	MW-ER-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-2	MW-104-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-3	MW-129R-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-4	MW-505-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-9	MW-532-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-10	MW-533-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-11	MW-534-W-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-12	DUP-2-WD-201104	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-13	DUP-3-WD-201104	Dissolved	Water	200.8 Rev 5.4	63961
MB 410-63961/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	63961
LCS 410-63961/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	63961
410-19567-2 MS	MW-104-W-201104MS	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-2 MSD	MW-104-W-201104MSD	Dissolved	Water	200.8 Rev 5.4	63961
410-19567-2 DU	MW-104-W-201104DUP	Dissolved	Water	200.8 Rev 5.4	63961

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-ER-W-201104

Lab Sample ID: 410-19567-1

Date Collected: 11/04/20 11:15

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65650	11/13/20 13:36	LCW8	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 04:01	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 00:18	UMDJ	ELLE
Total/NA	Prep	RSK-175			63295	11/07/20 13:00	LXF2	ELLE
Total/NA	Analysis	RSK-175		100	63298	11/07/20 18:21	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/16/20 22:33	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 13:47	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63041	11/06/20 13:47	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:54	BMB	ELLE

Client Sample ID: MW-104-W-201104

Lab Sample ID: 410-19567-2

Date Collected: 11/04/20 10:18

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65650	11/13/20 13:59	LCW8	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 04:31	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 00:43	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 18:17	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/16/20 23:18	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 17:06	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	67404	11/18/20 21:07	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:56	BMB	ELLE

Client Sample ID: MW-129R-W-201104

Lab Sample ID: 410-19567-3

Date Collected: 11/04/20 09:50

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65650	11/13/20 15:30	LCW8	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 05:02	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 03:16	UMDJ	ELLE
Total/NA	Prep	RSK-175			63597	11/09/20 08:13	LXF2	ELLE
Total/NA	Analysis	RSK-175		10	63635	11/09/20 11:41	LXF2	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-129R-W-201104

Lab Sample ID: 410-19567-3

Date Collected: 11/04/20 09:50

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 00:26	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 14:05	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		20	69971	11/24/20 14:36	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:50	BMB	ELLE

Client Sample ID: MW-505-W-201104

Lab Sample ID: 410-19567-4

Date Collected: 11/04/20 13:30

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65650	11/13/20 15:52	LCW8	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 05:33	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 03:41	UMDJ	ELLE
Total/NA	Prep	RSK-175			63597	11/09/20 08:13	LXF2	ELLE
Total/NA	Analysis	RSK-175		5	63635	11/09/20 12:04	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 01:35	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	70074	11/24/20 21:54	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63129	11/06/20 17:52	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:52	BMB	ELLE

Client Sample ID: MW-513-W-201104

Lab Sample ID: 410-19567-5

Date Collected: 11/04/20 14:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 03:59	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 07:05	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 04:07	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 19:49	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 01:57	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		100	69823	11/24/20 14:57	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63129	11/06/20 18:09	W5UX	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-513-W-201104

Lab Sample ID: 410-19567-5

Date Collected: 11/04/20 14:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			63963	11/09/20 19:43	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 17:18	BMB	ELLE

Client Sample ID: MW-525-W-201104

Lab Sample ID: 410-19567-6

Date Collected: 11/04/20 11:50

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 04:22	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 07:35	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 04:33	UMDJ	ELLE
Total/NA	Prep	RSK-175			63597	11/09/20 08:13	LXF2	ELLE
Total/NA	Analysis	RSK-175		5	63635	11/09/20 12:22	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 02:20	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 18:37	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	68932	11/21/20 14:08	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63963	11/09/20 19:43	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 17:16	BMB	ELLE

Client Sample ID: MW-526-W-201104

Lab Sample ID: 410-19567-7

Date Collected: 11/04/20 09:30

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 04:44	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 08:06	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 04:58	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 20:25	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 02:43	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 14:23	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63041	11/06/20 14:23	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63963	11/09/20 19:43	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 17:08	BMB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-531-W-201104
Date Collected: 11/04/20 10:00
Date Received: 11/05/20 10:25

Lab Sample ID: 410-19567-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 05:07	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 08:37	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 05:24	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 20:43	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 03:05	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		20	70074	11/24/20 22:49	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 14:41	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63963	11/09/20 19:43	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 17:14	BMB	ELLE

Client Sample ID: MW-532-W-201104
Date Collected: 11/04/20 12:15
Date Received: 11/05/20 10:25

Lab Sample ID: 410-19567-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 05:30	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 09:07	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 05:49	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 21:02	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 03:28	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		10	70074	11/24/20 23:07	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 20:08	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:36	BMB	ELLE

Client Sample ID: MW-533-W-201104
Date Collected: 11/04/20 12:02
Date Received: 11/05/20 10:25

Lab Sample ID: 410-19567-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 05:53	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	64936	11/12/20 09:38	ULM3	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 06:15	UMDJ	ELLE
Total/NA	Prep	RSK-175			62958	11/06/20 10:49	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	62980	11/06/20 21:38	LXF2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: MW-533-W-201104

Lab Sample ID: 410-19567-10

Date Collected: 11/04/20 12:02

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 03:51	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		500	70263	11/25/20 06:46	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 19:50	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:38	BMB	ELLE

Client Sample ID: MW-534-W-201104

Lab Sample ID: 410-19567-11

Date Collected: 11/04/20 12:40

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 06:16	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65226	11/13/20 00:41	UHB0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 06:41	UMDJ	ELLE
Total/NA	Prep	RSK-175			63597	11/09/20 08:13	LXF2	ELLE
Total/NA	Analysis	RSK-175		5	63635	11/09/20 12:40	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 04:13	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		100	69823	11/24/20 15:15	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63040	11/06/20 20:44	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:40	BMB	ELLE

Client Sample ID: DUP-2-WD-201104

Lab Sample ID: 410-19567-12

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 06:38	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65226	11/13/20 01:12	UHB0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 07:06	UMDJ	ELLE
Total/NA	Prep	RSK-175			63615	11/09/20 08:27	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63642	11/09/20 09:42	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 04:36	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 19:55	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63707	11/07/20 19:55	W5UX	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Client Sample ID: DUP-2-WD-201104

Lab Sample ID: 410-19567-12

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:42	BMB	ELLE

Client Sample ID: DUP-3-WD-201104

Lab Sample ID: 410-19567-13

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/13/20 07:01	UCB5	ELLE
Total/NA	Prep	3510C			64582	11/11/20 09:30	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65226	11/13/20 01:42	UHB0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 07:32	UMDJ	ELLE
Total/NA	Prep	RSK-175			63294	11/07/20 13:00	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63302	11/07/20 18:40	LXF2	ELLE
Total/NA	Prep	3510C			64084	11/10/20 09:10	R9CT	ELLE
Total/NA	Cleanup	3630C			65528	11/13/20 02:50	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	66652	11/17/20 04:59	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 20:12	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	68932	11/21/20 14:59	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63961	11/09/20 19:36	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66072	11/14/20 10:44	BMB	ELLE

Client Sample ID: QA-T-201104

Lab Sample ID: 410-19567-14

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/05/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65375	11/12/20 23:03	UCB5	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63139	11/07/20 02:50	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 300.0 R2.1		Water	Nitrogen, Nitrate
EPA 300.0 R2.1		Water	Sulfate
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)
RSK-175	RSK-175	Water	Methane (1C)



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19567-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-19567-1	MW-ER-W-201104	Water	11/04/20 11:15	11/05/20 10:25	
410-19567-2	MW-104-W-201104	Water	11/04/20 10:18	11/05/20 10:25	
410-19567-3	MW-129R-W-201104	Water	11/04/20 09:50	11/05/20 10:25	
410-19567-4	MW-505-W-201104	Water	11/04/20 13:30	11/05/20 10:25	
410-19567-5	MW-513-W-201104	Water	11/04/20 14:00	11/05/20 10:25	
410-19567-6	MW-525-W-201104	Water	11/04/20 11:50	11/05/20 10:25	
410-19567-7	MW-526-W-201104	Water	11/04/20 09:30	11/05/20 10:25	
410-19567-8	MW-531-W-201104	Water	11/04/20 10:00	11/05/20 10:25	
410-19567-9	MW-532-W-201104	Water	11/04/20 12:15	11/05/20 10:25	
410-19567-10	MW-533-W-201104	Water	11/04/20 12:02	11/05/20 10:25	
410-19567-11	MW-534-W-201104	Water	11/04/20 12:40	11/05/20 10:25	
410-19567-12	DUP-2-WD-201104	Water	11/04/20 00:00	11/05/20 10:25	
410-19567-13	DUP-3-WD-201104	Water	11/04/20 00:00	11/05/20 10:25	
410-19567-14	QA-T-201104	Water	11/04/20 00:00	11/05/20 10:25	



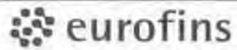
Lancaster Laboratories

Acct. # 410-19567 Chain of Custody

Laboratories use only
Sample #
Respond with circled numbers.

1 Client Information			4 Matrix			5 Analyses Requested												6 Remarks					
Facility # WBS Edmonds Terminal			Sediment <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/>			Total Number of Containers												SCR #:					
Site Address 11720 WACO Road, Edmonds, WA			Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>			8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input type="checkbox"/>												<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits					
Chevron PM Kim Jolitz			Oil <input type="checkbox"/>			8260 full scan																	
Lead Consultant Arcadis			Composite <input type="checkbox"/>			Oxygenates												* use standard s/c					
Consultant/Office 1100 Olive Way Suite 800, Seattle, WA			Soil <input type="checkbox"/>			NWTPH GX GRO																	
Consultant Project Mgr. Sam Mitz			Water <input type="checkbox"/>			NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <input checked="" type="checkbox"/> 1100 <input type="checkbox"/>																	
Consultant Phone # (206) 726-4720			8260 full scan			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/>																	
Sampler Daniel Gilbert, Kiley Zaubi, Julia Vidovich			8260 full scan			WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/>																	
2 Sample Identification			8260 full scan			Dissolved Manganese 200.8																	
Collected			8260 full scan			e-PATHS 8270 SIM																	
Date			8260 full scan			Sulfate and Nitrate 300.0																	
Time			8260 full scan			Dissolved Methane 15K 175																	
Grab			8260 full scan																				
MW-ER			11-4-20 1115																				
MW-104			11-4 1014																				
MW-104MS			11-4 1023																				
MW-104MSD			11-4 1028																				
MW-129R			11-4 0950																				
MW-505			11-4 1330																				
MW-513			11-4 1400																				
MW-525			11-4 1150																				
MW-526			11-4 0930																				
MW-531			11-4 1000																				
MW-532			11-4 1215																				
MW-533			11-4 1202																				
MW-534			11-4 1240																				
7 Turnaround Time Requested (TAT) (please circle)			Relinquished by			Date			Time			Received by			Date			Time					
Standard 5 day 4 day			Date			Time			Date			Time			Date			Time					
72 hour 48 hour 24 hour			Date			Time			Date			Time			Date			Time					
8 Data Package Options (please circle if required)			Relinquished by Commercial Carrier:			Date			Time			Received by			Date			Time					
Type I - Full Type VI (Raw Data)			UPS FedEx <input checked="" type="checkbox"/> Other			Date			Time			Date			Time			Date			Time		
			Temperature Upon Receipt 10/18 °C			Date			Time			Custody Seals Intact? (ES)			Date			Time					

Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # _____

Group # _____

For Lancaster Laboratories use only

Sample # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested												6 Remarks																	
Facility # <u>Edmonds Terminal</u> WBS				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/> Composite				Total Number of Containers _____ BTEX <input checked="" type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth 8260 full scan Oxygenates NWTPH GX <u>GRB</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <u>PRO</u> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>HO</u> WAPPH <input type="checkbox"/> WAEPPH <input type="checkbox"/> Dissolved Manganese <u>200.8</u> PAHs <u>8270 SIM</u> sulfate <u>and nitrate 300.0</u> Dissolved methane <u>R5K 175</u>												SCR #: _____																	
Site Address <u>11720 UNOCO Road, Edmonds, WA</u>								8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits <input type="checkbox"/>			<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits																										
Chevron PM <u>KIM Jolitz</u> Lead Consultant <u>Arcadis</u>																																					
Consultant/Office <u>1100 Olive Way Suite 800, Seattle, WA 98101</u>																																					
Consultant Project Mgr. <u>Sam Miles</u>																																					
Consultant Phone # <u>(206) 726-4720</u>																																					
Sampler <u>Daniel Gilbert, Kiley Zamb, Julia Vidovich, Michael Mardani</u>				8260 full scan Oxygenates NWTPH GX <u>GRB</u> NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup <u>PRO</u> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>HO</u> WAPPH <input type="checkbox"/> WAEPPH <input type="checkbox"/> Dissolved Manganese <u>200.8</u> PAHs <u>8270 SIM</u> sulfate <u>and nitrate 300.0</u> Dissolved methane <u>R5K 175</u>												* use standard SGC																					
2 Sample Identification		3 Collected																	Grab	Composite	Soil	Water	Oil	BTEX	8021	8260	Naphth	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAPPH	WAEPPH	
Date		Time																																			
<u>Dup-2</u>		<u>11-4</u>																	<u>~</u>	<u>X</u>		<u>X</u>		<u>X</u>					<u>X</u>	<u>X</u>							
<u>Dup-3</u>		<u>11-4</u>		<u>-</u>	<u>X</u>		<u>X</u>		<u>X</u>					<u>X</u>	<u>X</u>																						
<u>Trip Blank</u>		<u>11-4</u>		<u>-</u>					<u>X</u>					<u>X</u>																							
7 Turnaround Time Requested (TAT) (please circle) Standard <u>5 day</u> 4 day 72 hour 48 hour 24 hour				Relinquished by _____			Date _____			Time _____			Received by _____			Date _____			Time _____																		
				Relinquished by _____ Date _____ Time _____			Received by _____ Date _____ Time _____																														
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)				Relinquished by Commercial Carrier:						Received by _____			Date _____			Time _____																					
				UPS _____ FedEx <u>X</u> Other _____ Temperature Upon Receipt <u>10/18 °C</u>						Custody Seals Intact? <u>(Yes)</u> No																											

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-19567-1

Login Number: 19567

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	


ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-19750-1
Client Project/Site: Edmonds Terminal
Revision: 2

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:
2/8/2021 3:47:56 PM

Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

A handwritten signature in black ink that reads "Amek Carter". The signature is written in a cursive style.

Amek Carter
Project Manager
2/8/2021 3:47:56 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*1	LCS/LCSD RPD exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Job ID: 410-19750-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-19750-1

Revision

The report being provided is a revision of the original report sent on 12/1/2020. The report (revision 2) is being revised due to: Report Trial 2 results for samples MW-514, MW-518, MW-520, and DUP-4.

Report revision history

Revision 1 - 1/19/2021 - Reason - QC Linking - Add QC data for re-extraction.

Revision 2 - 2/08/2021 - Report Trial 2 results for samples MW-514, MW-518, MW-520, and DUP-4.

Receipt

The samples were received on 11/6/2020 10:36 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.4° C, 1.2° C and 1.5° C

Receipt Exceptions

A Chain-of-Custody (COC) was not received with these samples: MW-504-W-201105 (410-19750-1), MW-506-W-201105 (410-19750-2), MW-507-W-201105 (410-19750-3), MW-509-W-201105 (410-19750-4), MW-514-W-201105 (410-19750-5), MW-515-W-201105 (410-19750-6), MW-516-W-201105 (410-19750-7), MW-518-W-201105 (410-19750-8), MW-519-W-201105 (410-19750-9), MW-520-W-201105 (410-19750-10), DUP-4-WD-201105 (410-19750-11) and QA-T-201105 (410-19750-12).

Only two out of three coolers were received and only the following samples were received.
MW-504, MW-514, MW-515, MW-516, MW-518, MW-519, MW-520, DUP-4, and two trip blank vials.

Missing cooler with paperwork received on 11/7/20.

QC Linking - Add QC data for re-extraction

Revised Report - Report Trial 2 results for samples MW-514, MW-518, MW-520, and DUP-4

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270D SIM: Surrogate recovery for the following sample was outside control limits: MW-514-W-201105 (410-19750-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Results are reported from the initial extraction.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method 300.0: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-507-W-201105 (410-19750-3), MW-509-W-201105 (410-19750-4), MW-514-W-201105 (410-19750-5), MW-518-W-201105 (410-19750-8), MW-519-W-201105 (410-19750-9) and MW-520-W-201105 (410-19750-10).

Method 300.0: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error

: MW-504-W-201105 (410-19750-1), MW-506-W-201105 (410-19750-2) and DUP-4-WD-201105 (410-19750-11).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Job ID: 410-19750-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti)

Method RSK-175: Bracketing continuing calibration verification (CCV) was outside 12 hour window of opening CCV for samples. CCV was within specification for all compounds therefore data has been reported.

MW-504-W-201105 (410-19750-1), MW-514-W-201105 (410-19750-5), MW-515-W-201105 (410-19750-6), MW-516-W-201105 (410-19750-7) and MW-519-W-201105 (410-19750-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: The laboratory control sample (LCS) recovered outside acceptance limits for C12-C24. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported. MW-506-W-201105 (410-19750-2) and (410-19750-E-2-B DU)

Method NWTPH-Dx: The method blank contained C12-C24 above the MDL. There was insufficient sample to perform a re-extraction and/or re-analysis; therefore, the data have been reported. MW-506-W-201105 (410-19750-2) and (410-19750-E-2-B DU)

Method NWTPH-Dx: The laboratory control sample duplicate (LCSD) recovered below the control limits for the following analyte: C12-C24. The method blank had a detection for C12-C24 above the MDL. The associated sample was re-prepared outside holding time and the method blank and LCSD is within the control limits. O- terphenyl (Surr) recovered outside the lower control limit in the method blank of the second trial. Results are reported from both trials. MW-519-W-201105 (410-19750-9)

Method NWTPH-Dx: The laboratory control sample duplicate (LCSD) recovered below the control limits for the following analyte: C12-C24. The method blank had a detection for C12-C24 above the MDL. The associated sample(s) was re-prepared outside holding time and the method blank is compliant. The LCS in the second trial is below control limits for C12-C24. Results are reported from both trials: MW-504-W-201105 (410-19750-1), MW-507-W-201105 (410-19750-3), MW-515-W-201105 (410-19750-6), MW-516-W-201105 (410-19750-7) and (410-19750-E-1-B DU)

Method NWTPH-Dx: The laboratory control sample duplicate (LCSD) recovered below the control limits for the following analyte: C12-C24. The method blank had a detection for C12-C24 above the MDL. The associated sample(s) was re-prepared outside holding time and the method blank is compliant. The LCS in the second trial is below control limits for C12-C24. O- terphenyl (Surr) is below the lower control limits in the second trial. Results are reported from both trials: MW-509-W-201105 (410-19750-4)

Method NWTPH-Dx: The laboratory control sample duplicate (LCSD) recovered below the control limits for the following analyte: C12-C24. The method blank had a detection for C12-C24 above the MDL. The associated sample(s) was re-prepared outside holding time and the method blank is compliant. The LCS in the second trial is below control limits for C12-C24. Results are reported from the second trial per client request. DUP-4-WD-201105 (410-19750-11)

Method NWTPH-Dx: The laboratory control sample duplicate (LCSD) recovered below the control limits for the following analyte: C12-C24. The method blank had a detection for C12-C24 above the MDL. The associated sample(s) was re-prepared outside holding time and the method blank is compliant. The LCS in the second trial is below control limits for C12-C24. O- terphenyl (Surr) is below the lower control limits in the second trial. Results are reported from the second trial per client request. MW-514-W-201105 (410-19750-5), MW-518-W-201105 (410-19750-8) and MW-520-W-201105 (410-19750-10)

Method NWTPH-Dx: The following report(s) required a revision: Details are as follows: Samples originally reported both trials of data. Client requested only trial 2 be reported. Trial 1 was made acceptable and trial 2 set to primary and comments edited to state that trial 2 was reported per client request. Method NWTPH_DX, water matrix, Instrument 18847-I, Batch 410-67201 and 410-71017, Analyte C12-C24 and C24-C40. MW-514-W-201105 (410-19750-5), MW-518-W-201105 (410-19750-8), MW-520-W-201105 (410-19750-10) and DUP-4-WD-201105 (410-19750-11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Job ID: 410-19750-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-504-W-201105

Lab Sample ID: 410-19750-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	76		5.0	3.0	ug/L	1		RSK-175	Total/NA
C24-C40 - RE	120	J H	260	110	ug/L	1		NWTPH-Dx	Total/NA
Nitrogen, Nitrate	0.34	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	270		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	1100		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-506-W-201105

Lab Sample ID: 410-19750-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	33	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	5400		100	60	ug/L	20		RSK-175	Total/NA
Sulfate	140		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	7600		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-507-W-201105

Lab Sample ID: 410-19750-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	460		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	40		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	4700		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-509-W-201105

Lab Sample ID: 410-19750-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.44	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	1500		200	60	mg/L	200		EPA 300.0 R2.1	Total/NA
Manganese	3.6		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-514-W-201105

Lab Sample ID: 410-19750-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	34	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	310		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	180		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	5400		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-515-W-201105

Lab Sample ID: 410-19750-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	36	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	480		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	660		200	60	mg/L	200		EPA 300.0 R2.1	Total/NA
Manganese	1200		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-516-W-201105

Lab Sample ID: 410-19750-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	130		5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.36	J	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	220		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	1800		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-518-W-201105

Lab Sample ID: 410-19750-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	720		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1200		50	30	ug/L	10		RSK-175	Total/NA
Sulfate	26		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	510		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-519-W-201105

Lab Sample ID: 410-19750-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	62		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	91		20	6.0	mg/L	20		EPA 300.0 R2.1	Total/NA
Manganese	120		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-520-W-201105

Lab Sample ID: 410-19750-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.35	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	330		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	2.1		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: DUP-4-WD-201105

Lab Sample ID: 410-19750-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	760		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	1100		50	30	ug/L	10		RSK-175	Total/NA
C12-C24	56	J H *	100	47	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	30		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	500		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: QA-T-201105

Lab Sample ID: 410-19750-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-504-W-201105

Lab Sample ID: 410-19750-1

Date Collected: 11/05/20 09:55

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 10:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					11/14/20 10:30	1
Dibromofluoromethane (Surr)	101		80 - 120					11/14/20 10:30	1
4-Bromofluorobenzene (Surr)	89		80 - 120					11/14/20 10:30	1
Toluene-d8 (Surr)	97		80 - 120					11/14/20 10:30	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Chrysene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		11/12/20 09:00	11/14/20 01:21	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		11/12/20 09:00	11/14/20 01:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	12		10 - 122				11/12/20 09:00	11/14/20 01:21	1
1-Methylnaphthalene-d10 (Surr)	74		49 - 115				11/12/20 09:00	11/14/20 01:21	1
Fluoranthene-d10 (Surr)	78		65 - 129				11/12/20 09:00	11/14/20 01:21	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/09/20 23:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150					11/09/20 23:46	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	76		5.0	3.0	ug/L		11/07/20 15:25	11/08/20 05:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	84		28 - 140				11/07/20 15:25	11/08/20 05:35	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	110	47	ug/L		11/12/20 09:00	11/17/20 22:35	1
C24-C40	ND		260	110	ug/L		11/12/20 09:00	11/17/20 22:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/12/20 09:00	11/17/20 22:35	1
o-terphenyl (Surr)	64		50 - 150				11/12/20 09:00	11/17/20 22:35	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	48	ug/L		11/21/20 02:35	11/30/20 21:19	1
C24-C40	120	J H	260	110	ug/L		11/21/20 02:35	11/30/20 21:19	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-504-W-201105

Lab Sample ID: 410-19750-1

Date Collected: 11/05/20 09:55

Matrix: Water

Date Received: 11/06/20 10:36

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 21:19	1
<i>o</i> -terphenyl (Surr)	51		50 - 150	11/21/20 02:35	11/30/20 21:19	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.34	J H	0.50	0.25	mg/L			11/07/20 13:10	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	270		50	15	mg/L			11/24/20 11:46	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1100		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:28	1

Client Sample ID: MW-506-W-201105

Lab Sample ID: 410-19750-2

Date Collected: 11/05/20 11:20

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/14/20 10:52	1
Dibromofluoromethane (Surr)	100		80 - 120		11/14/20 10:52	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/14/20 10:52	1
Toluene-d8 (Surr)	95		80 - 120		11/14/20 10:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1
Chrysene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/12/20 09:00	11/14/20 01:52	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/14/20 01:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	70		10 - 122	11/12/20 09:00	11/14/20 01:52	1
1-Methylnaphthalene-d10 (Surr)	87		49 - 115	11/12/20 09:00	11/14/20 01:52	1
Fluoranthene-d10 (Surr)	69		65 - 129	11/12/20 09:00	11/14/20 01:52	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	33	J	250	19	ug/L			11/10/20 00:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	87		50 - 150		11/10/20 00:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-506-W-201105

Lab Sample ID: 410-19750-2

Date Collected: 11/05/20 11:20

Matrix: Water

Date Received: 11/06/20 10:36

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	5400		100	60	ug/L		11/11/20 09:10	11/11/20 10:34	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	103		28 - 140				11/11/20 09:10	11/11/20 10:34	20

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	100	46	ug/L		11/12/20 09:00	11/17/20 23:20	1
C24-C40	ND		250	100	ug/L		11/12/20 09:00	11/17/20 23:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/12/20 09:00	11/17/20 23:20	1
o-terphenyl (Surr)	63		50 - 150				11/12/20 09:00	11/17/20 23:20	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 14:40	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	140		50	15	mg/L			11/25/20 04:05	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7600		2.1	0.65	ug/L		11/10/20 17:31	11/12/20 20:30	1

Client Sample ID: MW-507-W-201105

Lab Sample ID: 410-19750-3

Date Collected: 11/05/20 09:50

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 11:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					11/14/20 11:13	1
Dibromofluoromethane (Surr)	102		80 - 120					11/14/20 11:13	1
4-Bromofluorobenzene (Surr)	88		80 - 120					11/14/20 11:13	1
Toluene-d8 (Surr)	98		80 - 120					11/14/20 11:13	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Chrysene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Dibenz(a,h)anthracene	ND		0.078	0.022	ug/L		11/12/20 09:00	11/14/20 02:22	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/12/20 09:00	11/14/20 02:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	54		10 - 122				11/12/20 09:00	11/14/20 02:22	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-507-W-201105

Lab Sample ID: 410-19750-3

Date Collected: 11/05/20 09:50

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	72		49 - 115	11/12/20 09:00	11/14/20 02:22	1
Fluoranthene-d10 (Surr)	78		65 - 129	11/12/20 09:00	11/14/20 02:22	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/10/20 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/10/20 01:03	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	460		5.0	3.0	ug/L		11/10/20 08:50	11/10/20 11:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	84		28 - 140	11/10/20 08:50	11/10/20 11:19	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	110	49	ug/L		11/12/20 09:00	11/18/20 00:28	1
C24-C40	ND		270	110	ug/L		11/12/20 09:00	11/18/20 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/12/20 09:00	11/18/20 00:28	1
o-terphenyl (Surr)	75		50 - 150	11/12/20 09:00	11/18/20 00:28	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	100	47	ug/L		11/21/20 02:35	11/30/20 21:42	1
C24-C40	ND	H	260	100	ug/L		11/21/20 02:35	11/30/20 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 21:42	1
o-terphenyl (Surr)	54		50 - 150	11/21/20 02:35	11/30/20 21:42	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 13:23	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	40		5.0	1.5	mg/L			11/07/20 13:23	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4700		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-509-W-201105

Lab Sample ID: 410-19750-4

Date Collected: 11/05/20 12:40

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 11:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					11/14/20 11:35	1
Dibromofluoromethane (Surr)	101		80 - 120					11/14/20 11:35	1
4-Bromofluorobenzene (Surr)	86		80 - 120					11/14/20 11:35	1
Toluene-d8 (Surr)	96		80 - 120					11/14/20 11:35	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Chrysene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Dibenz(a,h)anthracene	ND		0.072	0.021	ug/L		11/12/20 09:00	11/14/20 02:53	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		11/12/20 09:00	11/14/20 02:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	75		10 - 122				11/12/20 09:00	11/14/20 02:53	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115				11/12/20 09:00	11/14/20 02:53	1
Fluoranthene-d10 (Surr)	76		65 - 129				11/12/20 09:00	11/14/20 02:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/10/20 01:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/10/20 01:29	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/10/20 08:50	11/10/20 11:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	91		28 - 140				11/10/20 08:50	11/10/20 11:38	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	100	45	ug/L		11/12/20 09:00	11/18/20 00:51	1
C24-C40	ND		250	100	ug/L		11/12/20 09:00	11/18/20 00:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/12/20 09:00	11/18/20 00:51	1
o-terphenyl (Surr)	62		50 - 150				11/12/20 09:00	11/18/20 00:51	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	48	ug/L		11/21/20 02:35	11/30/20 22:05	1
C24-C40	ND	H	270	110	ug/L		11/21/20 02:35	11/30/20 22:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-509-W-201105

Lab Sample ID: 410-19750-4

Date Collected: 11/05/20 12:40

Matrix: Water

Date Received: 11/06/20 10:36

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 22:05	1
<i>o</i> -terphenyl (Surr)	42	X	50 - 150	11/21/20 02:35	11/30/20 22:05	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.44	J H	0.50	0.25	mg/L			11/07/20 15:57	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1500		200	60	mg/L			11/24/20 12:20	200

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	3.6		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:48	1

Client Sample ID: MW-514-W-201105

Lab Sample ID: 410-19750-5

Date Collected: 11/05/20 10:50

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 11:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		11/14/20 11:57	1
Dibromofluoromethane (Surr)	100		80 - 120		11/14/20 11:57	1
4-Bromofluorobenzene (Surr)	86		80 - 120		11/14/20 11:57	1
Toluene-d8 (Surr)	95		80 - 120		11/14/20 11:57	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1
Chrysene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		11/12/20 09:00	11/14/20 03:23	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/12/20 09:00	11/14/20 03:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	8	X	10 - 122	11/12/20 09:00	11/14/20 03:23	1
1-Methylnaphthalene-d10 (Surr)	75		49 - 115	11/12/20 09:00	11/14/20 03:23	1
Fluoranthene-d10 (Surr)	79		65 - 129	11/12/20 09:00	11/14/20 03:23	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	34	J	250	19	ug/L			11/10/20 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	86		50 - 150		11/10/20 01:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-514-W-201105

Lab Sample ID: 410-19750-5

Date Collected: 11/05/20 10:50

Matrix: Water

Date Received: 11/06/20 10:36

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	310		5.0	3.0	ug/L		11/07/20 15:25	11/08/20 05:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	91		28 - 140	11/07/20 15:25	11/08/20 05:53	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	48	ug/L		11/21/20 02:35	11/30/20 22:27	1
C24-C40	ND	H	270	110	ug/L		11/21/20 02:35	11/30/20 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 22:27	1
o-terphenyl (Surr)	49	S1-	50 - 150	11/21/20 02:35	11/30/20 22:27	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 14:15	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	180		50	15	mg/L			11/24/20 12:37	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5400		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:30	1

Client Sample ID: MW-515-W-201105

Lab Sample ID: 410-19750-6

Date Collected: 11/05/20 12:30

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 12:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		11/14/20 12:19	1
Dibromofluoromethane (Surr)	102		80 - 120		11/14/20 12:19	1
4-Bromofluorobenzene (Surr)	86		80 - 120		11/14/20 12:19	1
Toluene-d8 (Surr)	95		80 - 120		11/14/20 12:19	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1
Benzo[a]pyrene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1
Benzo[b]fluoranthene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1
Benzo[k]fluoranthene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1
Chrysene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1
Dibenz(a,h)anthracene	ND		0.090	0.026	ug/L		11/12/20 18:50	11/13/20 11:54	1
Indeno[1,2,3-cd]pyrene	ND		0.065	0.013	ug/L		11/12/20 18:50	11/13/20 11:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	26		10 - 122	11/12/20 18:50	11/13/20 11:54	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-515-W-201105

Lab Sample ID: 410-19750-6

Date Collected: 11/05/20 12:30

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	75		49 - 115	11/12/20 18:50	11/13/20 11:54	1
Fluoranthene-d10 (Surr)	91		65 - 129	11/12/20 18:50	11/13/20 11:54	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	36	J	250	19	ug/L			11/10/20 02:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/10/20 02:20	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	480		5.0	3.0	ug/L		11/07/20 15:25	11/08/20 06:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	94		28 - 140	11/07/20 15:25	11/08/20 06:11	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	110	51	ug/L		11/12/20 09:00	11/18/20 01:58	1
C24-C40	ND		280	110	ug/L		11/12/20 09:00	11/18/20 01:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/12/20 09:00	11/18/20 01:58	1
o-terphenyl (Surr)	63		50 - 150	11/12/20 09:00	11/18/20 01:58	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	51	ug/L		11/21/20 02:35	11/30/20 22:50	1
C24-C40	ND	H	280	110	ug/L		11/21/20 02:35	11/30/20 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 22:50	1
o-terphenyl (Surr)	53		50 - 150	11/21/20 02:35	11/30/20 22:50	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.50	0.25	mg/L			11/07/20 15:16	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	660		200	60	mg/L			11/24/20 12:54	200

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1200		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-516-W-201105

Lab Sample ID: 410-19750-7

Date Collected: 11/05/20 13:30

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 12:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					11/14/20 12:41	1
Dibromofluoromethane (Surr)	100		80 - 120					11/14/20 12:41	1
4-Bromofluorobenzene (Surr)	87		80 - 120					11/14/20 12:41	1
Toluene-d8 (Surr)	97		80 - 120					11/14/20 12:41	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Benzo[a]pyrene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Benzo[b]fluoranthene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Benzo[k]fluoranthene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Chrysene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		11/12/20 18:50	11/13/20 12:22	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.011	ug/L		11/12/20 18:50	11/13/20 12:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	36		10 - 122				11/12/20 18:50	11/13/20 12:22	1
1-Methylnaphthalene-d10 (Surr)	79		49 - 115				11/12/20 18:50	11/13/20 12:22	1
Fluoranthene-d10 (Surr)	93		65 - 129				11/12/20 18:50	11/13/20 12:22	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/10/20 02:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/10/20 02:46	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	130		5.0	3.0	ug/L		11/07/20 15:25	11/08/20 06:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	88		28 - 140				11/07/20 15:25	11/08/20 06:29	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	110	50	ug/L		11/12/20 09:00	11/18/20 02:21	1
C24-C40	ND		280	110	ug/L		11/12/20 09:00	11/18/20 02:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/12/20 09:00	11/18/20 02:21	1
o-terphenyl (Surr)	73		50 - 150				11/12/20 09:00	11/18/20 02:21	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	51	ug/L		11/21/20 02:35	11/30/20 23:13	1
C24-C40	ND	H	280	110	ug/L		11/21/20 02:35	11/30/20 23:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-516-W-201105

Lab Sample ID: 410-19750-7

Date Collected: 11/05/20 13:30

Matrix: Water

Date Received: 11/06/20 10:36

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	11/21/20 02:35	11/30/20 23:13	1
<i>o</i> -terphenyl (Surr)	51		50 - 150	11/21/20 02:35	11/30/20 23:13	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.36	J	0.50	0.25	mg/L			11/07/20 16:29	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	220		50	15	mg/L			11/24/20 13:45	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1800		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:33	1

Client Sample ID: MW-518-W-201105

Lab Sample ID: 410-19750-8

Date Collected: 11/05/20 11:26

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		11/14/20 13:03	1
Dibromofluoromethane (Surr)	99		80 - 120		11/14/20 13:03	1
4-Bromofluorobenzene (Surr)	87		80 - 120		11/14/20 13:03	1
Toluene-d8 (Surr)	94		80 - 120		11/14/20 13:03	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1
Chrysene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		11/12/20 18:50	11/13/20 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		11/12/20 18:50	11/13/20 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	41		10 - 122	11/12/20 18:50	11/13/20 12:50	1
1-Methylnaphthalene-d10 (Surr)	83		49 - 115	11/12/20 18:50	11/13/20 12:50	1
Fluoranthene-d10 (Surr)	81		65 - 129	11/12/20 18:50	11/13/20 12:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	720		250	19	ug/L			11/10/20 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	85		50 - 150		11/10/20 03:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-518-W-201105

Lab Sample ID: 410-19750-8

Date Collected: 11/05/20 11:26

Matrix: Water

Date Received: 11/06/20 10:36

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1200		50	30	ug/L		11/09/20 08:27	11/09/20 12:09	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	83		28 - 140				11/09/20 08:27	11/09/20 12:09	10

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	48	ug/L		11/21/20 02:35	11/30/20 23:36	1
C24-C40	ND	H	270	110	ug/L		11/21/20 02:35	11/30/20 23:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/21/20 02:35	11/30/20 23:36	1
o-terphenyl (Surr)	42	S1-	50 - 150				11/21/20 02:35	11/30/20 23:36	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 15:23	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	26		5.0	1.5	mg/L			11/07/20 15:23	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	510		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:31	1

Client Sample ID: MW-519-W-201105

Lab Sample ID: 410-19750-9

Date Collected: 11/05/20 11:15

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 13:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					11/14/20 13:25	1
Dibromofluoromethane (Surr)	104		80 - 120					11/14/20 13:25	1
4-Bromofluorobenzene (Surr)	87		80 - 120					11/14/20 13:25	1
Toluene-d8 (Surr)	95		80 - 120					11/14/20 13:25	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Chrysene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Dibenz(a,h)anthracene	ND		0.075	0.022	ug/L		11/12/20 18:50	11/13/20 13:19	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		11/12/20 18:50	11/13/20 13:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	77		10 - 122				11/12/20 18:50	11/13/20 13:19	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-519-W-201105

Lab Sample ID: 410-19750-9

Date Collected: 11/05/20 11:15

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	71		49 - 115	11/12/20 18:50	11/13/20 13:19	1
Fluoranthene-d10 (Surr)	91		65 - 129	11/12/20 18:50	11/13/20 13:19	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/10/20 03:37	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/10/20 03:37	1			

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	62		5.0	3.0	ug/L		11/07/20 15:25	11/09/20 06:05	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Propene (1C)	88		28 - 140		11/07/20 15:25	11/09/20 06:05	1		

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	**1	110	49	ug/L		11/12/20 09:00	11/18/20 03:06	1
C24-C40	ND		270	110	ug/L		11/12/20 09:00	11/18/20 03:06	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
n-Decanoic Acid (Surr)	0.3		0 - 1		11/12/20 09:00	11/18/20 03:06	1		
o-terphenyl (Surr)	53		50 - 150		11/12/20 09:00	11/18/20 03:06	1		

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *1	110	49	ug/L		11/23/20 17:15	12/01/20 08:18	1
C24-C40	ND	H	270	110	ug/L		11/23/20 17:15	12/01/20 08:18	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
n-Decanoic Acid (Surr)	0.3		0 - 1		11/23/20 17:15	12/01/20 08:18	1		
o-terphenyl (Surr)	64		50 - 150		11/23/20 17:15	12/01/20 08:18	1		

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 14:32	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	91		20	6.0	mg/L			11/24/20 14:02	20

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	120		2.1	0.65	ug/L		11/10/20 17:31	11/12/20 20:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-520-W-201105

Lab Sample ID: 410-19750-10

Date Collected: 11/05/20 12:20

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 13:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					11/14/20 13:47	1
Dibromofluoromethane (Surr)	99		80 - 120					11/14/20 13:47	1
4-Bromofluorobenzene (Surr)	89		80 - 120					11/14/20 13:47	1
Toluene-d8 (Surr)	96		80 - 120					11/14/20 13:47	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Chrysene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		11/12/20 18:50	11/13/20 13:47	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/12/20 18:50	11/13/20 13:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	76		10 - 122				11/12/20 18:50	11/13/20 13:47	1
1-Methylnaphthalene-d10 (Surr)	75		49 - 115				11/12/20 18:50	11/13/20 13:47	1
Fluoranthene-d10 (Surr)	83		65 - 129				11/12/20 18:50	11/13/20 13:47	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/10/20 04:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/10/20 04:03	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/07/20 13:52	11/07/20 20:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	91		28 - 140				11/07/20 13:52	11/07/20 20:28	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H *	110	47	ug/L		11/21/20 02:35	11/30/20 23:58	1
C24-C40	ND	H	260	110	ug/L		11/21/20 02:35	11/30/20 23:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/21/20 02:35	11/30/20 23:58	1
o-terphenyl (Surr)	47	S1-	50 - 150				11/21/20 02:35	11/30/20 23:58	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.35	J H	0.50	0.25	mg/L			11/07/20 15:40	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-520-W-201105

Lab Sample ID: 410-19750-10

Date Collected: 11/05/20 12:20

Matrix: Water

Date Received: 11/06/20 10:36

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	330		50	15	mg/L			11/24/20 14:19	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.1		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:24	1

Client Sample ID: DUP-4-WD-201105

Lab Sample ID: 410-19750-11

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		11/14/20 14:09	1
Dibromofluoromethane (Surr)	99		80 - 120		11/14/20 14:09	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/14/20 14:09	1
Toluene-d8 (Surr)	95		80 - 120		11/14/20 14:09	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1
Chrysene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		11/12/20 18:50	11/13/20 14:15	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/12/20 18:50	11/13/20 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	49		10 - 122	11/12/20 18:50	11/13/20 14:15	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	11/12/20 18:50	11/13/20 14:15	1
Fluoranthene-d10 (Surr)	96		65 - 129	11/12/20 18:50	11/13/20 14:15	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	760		250	19	ug/L			11/10/20 04:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		11/10/20 04:29	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1100		50	30	ug/L		11/09/20 08:27	11/09/20 12:28	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	11/09/20 08:27	11/09/20 12:28	10

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	56	J H *	100	47	ug/L		11/21/20 02:35	12/01/20 00:21	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: DUP-4-WD-201105

Lab Sample ID: 410-19750-11

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND	H	260	100	ug/L		11/21/20 02:35	12/01/20 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	11/21/20 02:35	12/01/20 00:21	1
<i>o-terphenyl (Surr)</i>	50		50 - 150	11/21/20 02:35	12/01/20 00:21	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/07/20 21:37	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	30		5.0	1.5	mg/L			11/07/20 21:37	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	500		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 17:24	1

Client Sample ID: QA-T-201105

Lab Sample ID: 410-19750-12

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 10:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	107		80 - 120		11/14/20 10:08	1
<i>Dibromofluoromethane (Surr)</i>	101		80 - 120		11/14/20 10:08	1
<i>4-Bromofluorobenzene (Surr)</i>	87		80 - 120		11/14/20 10:08	1
<i>Toluene-d8 (Surr)</i>	94		80 - 120		11/14/20 10:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/09/20 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	86		50 - 150		11/09/20 20:20	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-19750-1	MW-504-W-201105	103	101	89	97
410-19750-2	MW-506-W-201105	104	100	89	95
410-19750-3	MW-507-W-201105	106	102	88	98
410-19750-4	MW-509-W-201105	99	101	86	96
410-19750-5	MW-514-W-201105	101	100	86	95
410-19750-6	MW-515-W-201105	105	102	86	95
410-19750-7	MW-516-W-201105	104	100	87	97
410-19750-8	MW-518-W-201105	106	99	87	94
410-19750-9	MW-519-W-201105	106	104	87	95
410-19750-10	MW-520-W-201105	100	99	89	96
410-19750-11	DUP-4-WD-201105	99	99	89	95
410-19750-12	QA-T-201105	107	101	87	94
LCS 410-65997/4	Lab Control Sample	100	102	92	97
LCSD 410-65997/5	Lab Control Sample Dup	106	100	93	98
MB 410-65997/7	Method Blank	104	100	87	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
410-19750-1	MW-504-W-201105	12	74	78
410-19750-2	MW-506-W-201105	70	87	69
410-19750-3	MW-507-W-201105	54	72	78
410-19750-4	MW-509-W-201105	75	78	76
410-19750-5	MW-514-W-201105	8 X	75	79
410-19750-6	MW-515-W-201105	26	75	91
410-19750-7	MW-516-W-201105	36	79	93
410-19750-8	MW-518-W-201105	41	83	81
410-19750-9	MW-519-W-201105	77	71	91
410-19750-10	MW-520-W-201105	76	75	83
410-19750-11	DUP-4-WD-201105	49	85	96
LCS 410-65087/2-A	Lab Control Sample	83	49	78
LCS 410-65400/2-A	Lab Control Sample	92	79	93
LCSD 410-65400/3-A	Lab Control Sample Dup	90	74	91
MB 410-65087/1-A	Method Blank	81	56	99
MB 410-65400/1-A	Method Blank	94	85	94

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-19750-1	MW-504-W-201105	84
410-19750-2	MW-506-W-201105	87
410-19750-3	MW-507-W-201105	86
410-19750-4	MW-509-W-201105	86
410-19750-5	MW-514-W-201105	86
410-19750-6	MW-515-W-201105	86
410-19750-7	MW-516-W-201105	86
410-19750-8	MW-518-W-201105	85
410-19750-9	MW-519-W-201105	86
410-19750-10	MW-520-W-201105	86
410-19750-11	DUP-4-WD-201105	85
410-19750-12	QA-T-201105	86
LCS 410-63834/5	Lab Control Sample	79
LCSD 410-63834/6	Lab Control Sample Dup	78
MB 410-63834/4	Method Blank	86

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-19750-1	MW-504-W-201105	84
410-19750-2	MW-506-W-201105	103
410-19750-3	MW-507-W-201105	84
410-19750-4	MW-509-W-201105	91
410-19750-5	MW-514-W-201105	91
410-19750-6	MW-515-W-201105	94
410-19750-7	MW-516-W-201105	88
410-19750-8	MW-518-W-201105	83
410-19750-9	MW-519-W-201105	88
410-19750-10	MW-520-W-201105	91
410-19750-11	DUP-4-WD-201105	87
LCS 410-63297/2-A	Lab Control Sample	104
LCS 410-63313/2-A	Lab Control Sample	102
LCS 410-63615/2-A	Lab Control Sample	99
LCS 410-64154/2-A	Lab Control Sample	99
LCS 410-64663/2-A	Lab Control Sample	101
LCSD 410-64154/3-A	Lab Control Sample Dup	97
MB 410-63297/1-A	Method Blank	104
MB 410-63313/1-A	Method Blank	107
MB 410-63615/1-A	Method Blank	101
MB 410-64154/1-A	Method Blank	97
MB 410-64663/1-A	Method Blank	104

Surrogate Legend

Propene = Propene

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-19750-1	MW-504-W-201105	0.3	64
410-19750-1 - RE	MW-504-W-201105	0.3	51
410-19750-1 DU	MW-504-W-201105	0.3	87
410-19750-2	MW-506-W-201105	0.3	63
410-19750-2 DU	MW-506-W-201105	0.3	67
410-19750-3	MW-507-W-201105	0.3	75
410-19750-3 - RE	MW-507-W-201105	0.3	54
410-19750-4	MW-509-W-201105	0.3	62
410-19750-4 - RE	MW-509-W-201105	0.3	42 X
410-19750-5	MW-514-W-201105	0.3	49 S1-
410-19750-6	MW-515-W-201105	0.3	63
410-19750-6 - RE	MW-515-W-201105	0.3	53
410-19750-7	MW-516-W-201105	0.3	73
410-19750-7 - RE	MW-516-W-201105	0.3	51
410-19750-8	MW-518-W-201105	0.3	42 S1-
410-19750-9	MW-519-W-201105	0.3	53
410-19750-9 - RE	MW-519-W-201105	0.3	64
410-19750-10	MW-520-W-201105	0.3	47 S1-
410-19750-11	DUP-4-WD-201105	0.3	50
LCS 410-65077/2-B	Lab Control Sample	0.4	52
LCS 410-68865/2-B	Lab Control Sample	0.3	55
LCS 410-69554/2-B	Lab Control Sample	0.4	45 X
LCSD 410-65077/3-B	Lab Control Sample Dup	0.4	59
LCSD 410-69554/3-B	Lab Control Sample Dup	0.4	57
MB 410-65077/1-B	Method Blank	0.3	98
MB 410-68865/1-B	Method Blank	0.3	57
MB 410-69554/1-B	Method Blank	0.3	49 X

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-65997/7
Matrix: Water
Analysis Batch: 65997

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/14/20 09:46	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					11/14/20 09:46	1
Dibromofluoromethane (Surr)	100		80 - 120					11/14/20 09:46	1
4-Bromofluorobenzene (Surr)	87		80 - 120					11/14/20 09:46	1
Toluene-d8 (Surr)	95		80 - 120					11/14/20 09:46	1

Lab Sample ID: LCS 410-65997/4
Matrix: Water
Analysis Batch: 65997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.1		ug/L		96	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	100		80 - 120				
Dibromofluoromethane (Surr)	102		80 - 120				
4-Bromofluorobenzene (Surr)	92		80 - 120				
Toluene-d8 (Surr)	97		80 - 120				

Lab Sample ID: LCSD 410-65997/5
Matrix: Water
Analysis Batch: 65997

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.4		ug/L		102	80 - 120	6	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	106		80 - 120						
Dibromofluoromethane (Surr)	100		80 - 120						
4-Bromofluorobenzene (Surr)	93		80 - 120						
Toluene-d8 (Surr)	98		80 - 120						

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-65087/1-A
Matrix: Water
Analysis Batch: 65226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1
Chrysene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/12/20 09:00	11/12/20 21:37	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		11/12/20 09:00	11/12/20 21:37	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	81		10 - 122	11/12/20 09:00	11/12/20 21:37	1
1-Methylnaphthalene-d10 (Surr)	56		49 - 115	11/12/20 09:00	11/12/20 21:37	1
Fluoranthene-d10 (Surr)	99		65 - 129	11/12/20 09:00	11/12/20 21:37	1

Lab Sample ID: LCS 410-65087/2-A
Matrix: Water
Analysis Batch: 65226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.997		ug/L		100	69 - 119
Benzo[a]pyrene	1.00	0.932		ug/L		93	73 - 117
Benzo[b]fluoranthene	1.00	0.839		ug/L		84	72 - 123
Benzo[k]fluoranthene	1.00	1.02		ug/L		102	66 - 124
Chrysene	1.00	0.963		ug/L		96	61 - 117
Dibenz(a,h)anthracene	1.00	0.725		ug/L		72	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	0.602		ug/L		60	57 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	83		10 - 122
1-Methylnaphthalene-d10 (Surr)	49		49 - 115
Fluoranthene-d10 (Surr)	78		65 - 129

Lab Sample ID: MB 410-65400/1-A
Matrix: Water
Analysis Batch: 65552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65400

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1
Chrysene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/12/20 18:50	11/13/20 09:33	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		11/12/20 18:50	11/13/20 09:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	94		10 - 122	11/12/20 18:50	11/13/20 09:33	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	11/12/20 18:50	11/13/20 09:33	1
Fluoranthene-d10 (Surr)	94		65 - 129	11/12/20 18:50	11/13/20 09:33	1

Lab Sample ID: LCS 410-65400/2-A
Matrix: Water
Analysis Batch: 65552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65400

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	1.02		ug/L		102	69 - 119
Benzo[a]pyrene	1.00	0.970		ug/L		97	73 - 117
Benzo[b]fluoranthene	1.00	1.02		ug/L		102	72 - 123
Benzo[k]fluoranthene	1.00	1.02		ug/L		102	66 - 124
Chrysene	1.00	0.995		ug/L		99	61 - 117
Dibenz(a,h)anthracene	1.00	1.07		ug/L		107	60 - 118

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-65400/2-A
Matrix: Water
Analysis Batch: 65552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65400

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	1.00	1.21		ug/L		121	57 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	92		10 - 122
1-Methylnaphthalene-d10 (Surr)	79		49 - 115
Fluoranthene-d10 (Surr)	93		65 - 129

Lab Sample ID: LCSD 410-65400/3-A
Matrix: Water
Analysis Batch: 65552

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65400

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzo[a]anthracene	1.00	1.00		ug/L		100	69 - 119	2	30
Benzo[a]pyrene	1.00	0.949		ug/L		95	73 - 117	2	30
Benzo[b]fluoranthene	1.00	1.02		ug/L		102	72 - 123	1	30
Benzo[k]fluoranthene	1.00	1.00		ug/L		100	66 - 124	2	30
Chrysene	1.00	0.992		ug/L		99	61 - 117	0	30
Dibenz(a,h)anthracene	1.00	1.08		ug/L		108	60 - 118	1	30
Indeno[1,2,3-cd]pyrene	1.00	1.20		ug/L		120	57 - 134	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	90		10 - 122
1-Methylnaphthalene-d10 (Surr)	74		49 - 115
Fluoranthene-d10 (Surr)	91		65 - 129

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-63834/4
Matrix: Water
Analysis Batch: 63834

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/09/20 18:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/09/20 18:38	1

Lab Sample ID: LCS 410-63834/5
Matrix: Water
Analysis Batch: 63834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1070		ug/L		97	64 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	79		50 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-63834/6
Matrix: Water
Analysis Batch: 63834

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100	1080		ug/L		98	64 - 131	1	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150						

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-63297/1-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63297

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/07/20 13:52	11/07/20 18:58	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	104		28 - 140				11/07/20 13:52	11/07/20 18:58	1

Lab Sample ID: LCS 410-63297/2-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	63.8		ug/L		107	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	104		28 - 140				

Lab Sample ID: MB 410-63313/1-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63313

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/07/20 15:25	11/08/20 01:18	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	107		28 - 140				11/07/20 15:25	11/08/20 01:18	1

Lab Sample ID: LCS 410-63313/2-A
Matrix: Water
Analysis Batch: 63298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	63.1		ug/L		106	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	102		28 - 140				

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 410-63615/1-A
Matrix: Water
Analysis Batch: 63642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63615

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane (1C)	ND		5.0	3.0	ug/L		11/09/20 08:27	11/09/20 08:54	1
Surrogate	MB MB		Limits			D	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
Propene (1C)	101		28 - 140				11/09/20 08:27	11/09/20 08:54	1

Lab Sample ID: LCS 410-63615/2-A
Matrix: Water
Analysis Batch: 63642

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63615

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
Methane (1C)	59.4	62.8		ug/L		106	85 - 115	
Surrogate	LCS LCS		Limits			D	%Rec	%Rec. Limits
%Recovery	Qualifier							
Propene (1C)	99		28 - 140					

Lab Sample ID: MB 410-64154/1-A
Matrix: Water
Analysis Batch: 64182

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64154

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane (1C)	ND		5.0	3.0	ug/L		11/10/20 08:50	11/10/20 09:02	1
Surrogate	MB MB		Limits			D	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
Propene (1C)	97		28 - 140				11/10/20 08:50	11/10/20 09:02	1

Lab Sample ID: LCS 410-64154/2-A
Matrix: Water
Analysis Batch: 64182

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64154

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
Methane (1C)	59.4	62.4		ug/L		105	85 - 115	
Surrogate	LCS LCS		Limits			D	%Rec	%Rec. Limits
%Recovery	Qualifier							
Propene (1C)	99		28 - 140					

Lab Sample ID: LCSD 410-64154/3-A
Matrix: Water
Analysis Batch: 64182

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64154

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Methane (1C)	59.4	61.3		ug/L		103	85 - 115	2	20
Surrogate	LCSD LCSD		Limits			D	%Rec	%Rec. Limits	RPD
%Recovery	Qualifier								
Propene (1C)	97		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 410-64663/1-A
Matrix: Water
Analysis Batch: 64679

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/11/20 09:10	11/11/20 09:28	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	104		28 - 140				11/11/20 09:10	11/11/20 09:28	1

Lab Sample ID: LCS 410-64663/2-A
Matrix: Water
Analysis Batch: 64679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	60.8		ug/L		102	85 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Propene (1C)	101		28 - 140				

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-65077/1-B
Matrix: Water
Analysis Batch: 67201

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	64.4	J	100	45	ug/L		11/12/20 09:00	11/17/20 21:27	1
C24-C40	ND		250	100	ug/L		11/12/20 09:00	11/17/20 21:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/12/20 09:00	11/17/20 21:27	1
o-terphenyl (Surr)	98		50 - 150				11/12/20 09:00	11/17/20 21:27	1

Lab Sample ID: LCS 410-65077/2-B
Matrix: Water
Analysis Batch: 67201

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	603	107		ug/L		18	10 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
n-Decanoic Acid (Surr)	0.4		0 - 1				
o-terphenyl (Surr)	52		50 - 150				

Lab Sample ID: LCSD 410-65077/3-B
Matrix: Water
Analysis Batch: 67201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65077

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C12-C24	603	55.6	J **1	ug/L		9	10 - 115	63	20

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: LCSD 410-65077/3-B
Matrix: Water
Analysis Batch: 67201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65077

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	59		50 - 150

Lab Sample ID: 410-19750-1 DU
Matrix: Water
Analysis Batch: 67201

Client Sample ID: MW-504-W-201105
Prep Type: Total/NA
Prep Batch: 65077

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
	C12-C24	ND	**1	85.3				
C24-C40	ND		ND		ug/L		NC	20

Surrogate	DU		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	87		50 - 150

Lab Sample ID: 410-19750-2 DU
Matrix: Water
Analysis Batch: 67201

Client Sample ID: MW-506-W-201105
Prep Type: Total/NA
Prep Batch: 65077

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
	C12-C24	ND	**1	ND				
C24-C40	ND		ND		ug/L		NC	20

Surrogate	DU		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	67		50 - 150

Lab Sample ID: MB 410-68865/1-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68865

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	C12-C24	ND		100					
C24-C40	ND		250	100	ug/L		11/21/20 02:35	11/30/20 20:34	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	11/21/20 02:35	11/30/20 20:34	1
<i>o-terphenyl (Surr)</i>	57		50 - 150	11/21/20 02:35	11/30/20 20:34	1

Lab Sample ID: LCS 410-68865/2-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
		C12-C24	ND				

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: LCS 410-68865/2-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68865

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	55		50 - 150

Lab Sample ID: MB 410-69554/1-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69554

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		11/23/20 17:15	12/01/20 07:10	1
C24-C40	ND		250	100	ug/L		11/23/20 17:15	12/01/20 07:10	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	11/23/20 17:15	12/01/20 07:10	1
<i>o-terphenyl (Surr)</i>	49	X	50 - 150	11/23/20 17:15	12/01/20 07:10	1

Lab Sample ID: LCS 410-69554/2-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69554

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	603	151		ug/L		25	10 - 115

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	45	X	50 - 150

Lab Sample ID: LCSD 410-69554/3-B
Matrix: Water
Analysis Batch: 71017

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69554

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
C12-C24	603	202	*1	ug/L		34	10 - 115	29	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	57		50 - 150

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63706/4
Matrix: Water
Analysis Batch: 63706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/07/20 12:15	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 410-63706/3
Matrix: Water
Analysis Batch: 63706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.720		mg/L		96	90 - 110

Lab Sample ID: MB 410-63723/4
Matrix: Water
Analysis Batch: 63723

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/07/20 12:51	1

Lab Sample ID: LCS 410-63723/3
Matrix: Water
Analysis Batch: 63723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.751		mg/L		100	90 - 110

Lab Sample ID: 410-19750-1 MS
Matrix: Water
Analysis Batch: 63723

Client Sample ID: MW-504-W-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.34	J H	2.50	2.77		mg/L		97	90 - 110

Lab Sample ID: 410-19750-11 MS
Matrix: Water
Analysis Batch: 63723

Client Sample ID: DUP-4-WD-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H	2.50	2.50		mg/L		100	90 - 110

Lab Sample ID: 410-19750-1 DU
Matrix: Water
Analysis Batch: 63723

Client Sample ID: MW-504-W-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	0.34	J H	0.374	J	mg/L		11	15

Lab Sample ID: 410-19750-11 DU
Matrix: Water
Analysis Batch: 63723

Client Sample ID: DUP-4-WD-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H	ND		mg/L		NC	15

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63722/4
Matrix: Water
Analysis Batch: 63722

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/07/20 12:51	1

Lab Sample ID: LCS 410-63722/3
Matrix: Water
Analysis Batch: 63722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.54		mg/L		101	90 - 110

Lab Sample ID: 410-19750-11 MS
Matrix: Water
Analysis Batch: 63722

Client Sample ID: DUP-4-WD-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30		25.0	56.8		mg/L		106	90 - 110

Lab Sample ID: 410-19750-11 DU
Matrix: Water
Analysis Batch: 63722

Client Sample ID: DUP-4-WD-201105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	30		25.0	30.4		mg/L		0.3	15

Lab Sample ID: MB 410-69971/4
Matrix: Water
Analysis Batch: 69971

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/24/20 05:21	1

Lab Sample ID: LCS 410-69971/3
Matrix: Water
Analysis Batch: 69971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.36		mg/L		98	90 - 110

Lab Sample ID: MB 410-70097/23
Matrix: Water
Analysis Batch: 70097

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/25/20 02:58	1

Lab Sample ID: LCS 410-70097/22
Matrix: Water
Analysis Batch: 70097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.43		mg/L		99	90 - 110

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-63957/1-A
Matrix: Water
Analysis Batch: 64823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 13:56	1

Lab Sample ID: LCS 410-63957/2-A
Matrix: Water
Analysis Batch: 64823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	22.1		ug/L		111	85 - 115

Lab Sample ID: MB 410-63963/1-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:43	11/12/20 16:50	1

Lab Sample ID: LCS 410-63963/2-A
Matrix: Water
Analysis Batch: 65569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	20.9		ug/L		105	85 - 115

Lab Sample ID: MB 410-64225/1-A
Matrix: Water
Analysis Batch: 66143

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64225

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/10/20 10:23	11/14/20 12:02	1

Lab Sample ID: LCS 410-64225/2-A
Matrix: Water
Analysis Batch: 66143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64225

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	20.4		ug/L		102	85 - 115

Lab Sample ID: MB 410-64380/1-A
Matrix: Water
Analysis Batch: 65670

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/10/20 17:31	11/12/20 20:06	1

Lab Sample ID: LCS 410-64380/2-A
Matrix: Water
Analysis Batch: 65670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	21.8		ug/L		109	85 - 115

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

GC/MS VOA

Analysis Batch: 65997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	8260D	
410-19750-2	MW-506-W-201105	Total/NA	Water	8260D	
410-19750-3	MW-507-W-201105	Total/NA	Water	8260D	
410-19750-4	MW-509-W-201105	Total/NA	Water	8260D	
410-19750-5	MW-514-W-201105	Total/NA	Water	8260D	
410-19750-6	MW-515-W-201105	Total/NA	Water	8260D	
410-19750-7	MW-516-W-201105	Total/NA	Water	8260D	
410-19750-8	MW-518-W-201105	Total/NA	Water	8260D	
410-19750-9	MW-519-W-201105	Total/NA	Water	8260D	
410-19750-10	MW-520-W-201105	Total/NA	Water	8260D	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	8260D	
410-19750-12	QA-T-201105	Total/NA	Water	8260D	
MB 410-65997/7	Method Blank	Total/NA	Water	8260D	
LCS 410-65997/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-65997/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 65087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	3510C	
410-19750-2	MW-506-W-201105	Total/NA	Water	3510C	
410-19750-3	MW-507-W-201105	Total/NA	Water	3510C	
410-19750-4	MW-509-W-201105	Total/NA	Water	3510C	
410-19750-5	MW-514-W-201105	Total/NA	Water	3510C	
MB 410-65087/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-65087/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 65226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-65087/1-A	Method Blank	Total/NA	Water	8270D SIM	65087
LCS 410-65087/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	65087

Prep Batch: 65400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-6	MW-515-W-201105	Total/NA	Water	3510C	
410-19750-7	MW-516-W-201105	Total/NA	Water	3510C	
410-19750-8	MW-518-W-201105	Total/NA	Water	3510C	
410-19750-9	MW-519-W-201105	Total/NA	Water	3510C	
410-19750-10	MW-520-W-201105	Total/NA	Water	3510C	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	3510C	
MB 410-65400/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-65400/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-65400/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 65552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-6	MW-515-W-201105	Total/NA	Water	8270D SIM	65400
410-19750-7	MW-516-W-201105	Total/NA	Water	8270D SIM	65400
410-19750-8	MW-518-W-201105	Total/NA	Water	8270D SIM	65400
410-19750-9	MW-519-W-201105	Total/NA	Water	8270D SIM	65400

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

GC/MS Semi VOA (Continued)

Analysis Batch: 65552 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-10	MW-520-W-201105	Total/NA	Water	8270D SIM	65400
410-19750-11	DUP-4-WD-201105	Total/NA	Water	8270D SIM	65400
MB 410-65400/1-A	Method Blank	Total/NA	Water	8270D SIM	65400
LCS 410-65400/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	65400
LCSD 410-65400/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	65400

Analysis Batch: 65881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	8270D SIM	65087
410-19750-2	MW-506-W-201105	Total/NA	Water	8270D SIM	65087
410-19750-3	MW-507-W-201105	Total/NA	Water	8270D SIM	65087
410-19750-4	MW-509-W-201105	Total/NA	Water	8270D SIM	65087
410-19750-5	MW-514-W-201105	Total/NA	Water	8270D SIM	65087

GC VOA

Prep Batch: 63297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-10	MW-520-W-201105	Total/NA	Water	RSK-175	
MB 410-63297/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63297/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 63298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	RSK-175	63313
410-19750-5	MW-514-W-201105	Total/NA	Water	RSK-175	63313
410-19750-6	MW-515-W-201105	Total/NA	Water	RSK-175	63313
410-19750-7	MW-516-W-201105	Total/NA	Water	RSK-175	63313
410-19750-9	MW-519-W-201105	Total/NA	Water	RSK-175	63313
410-19750-10	MW-520-W-201105	Total/NA	Water	RSK-175	63297
MB 410-63297/1-A	Method Blank	Total/NA	Water	RSK-175	63297
MB 410-63313/1-A	Method Blank	Total/NA	Water	RSK-175	63313
LCS 410-63297/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63297
LCS 410-63313/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63313

Prep Batch: 63313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	RSK-175	
410-19750-5	MW-514-W-201105	Total/NA	Water	RSK-175	
410-19750-6	MW-515-W-201105	Total/NA	Water	RSK-175	
410-19750-7	MW-516-W-201105	Total/NA	Water	RSK-175	
410-19750-9	MW-519-W-201105	Total/NA	Water	RSK-175	
MB 410-63313/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63313/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Prep Batch: 63615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-8	MW-518-W-201105	Total/NA	Water	RSK-175	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	RSK-175	
MB 410-63615/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-63615/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

GC VOA

Analysis Batch: 63642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-8	MW-518-W-201105	Total/NA	Water	RSK-175	63615
410-19750-11	DUP-4-WD-201105	Total/NA	Water	RSK-175	63615
MB 410-63615/1-A	Method Blank	Total/NA	Water	RSK-175	63615
LCS 410-63615/2-A	Lab Control Sample	Total/NA	Water	RSK-175	63615

Analysis Batch: 63834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-2	MW-506-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-3	MW-507-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-4	MW-509-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-5	MW-514-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-6	MW-515-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-7	MW-516-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-8	MW-518-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-9	MW-519-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-10	MW-520-W-201105	Total/NA	Water	NWTPH-Gx	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	NWTPH-Gx	
410-19750-12	QA-T-201105	Total/NA	Water	NWTPH-Gx	
MB 410-63834/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-63834/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-63834/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Prep Batch: 64154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Total/NA	Water	RSK-175	
410-19750-4	MW-509-W-201105	Total/NA	Water	RSK-175	
MB 410-64154/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-64154/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-64154/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 64182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Total/NA	Water	RSK-175	64154
410-19750-4	MW-509-W-201105	Total/NA	Water	RSK-175	64154
MB 410-64154/1-A	Method Blank	Total/NA	Water	RSK-175	64154
LCS 410-64154/2-A	Lab Control Sample	Total/NA	Water	RSK-175	64154
LCSD 410-64154/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	64154

Prep Batch: 64663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-2	MW-506-W-201105	Total/NA	Water	RSK-175	
MB 410-64663/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-64663/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 64679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-2	MW-506-W-201105	Total/NA	Water	RSK-175	64663
MB 410-64663/1-A	Method Blank	Total/NA	Water	RSK-175	64663
LCS 410-64663/2-A	Lab Control Sample	Total/NA	Water	RSK-175	64663

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

GC Semi VOA

Prep Batch: 65077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	3510C	
410-19750-2	MW-506-W-201105	Total/NA	Water	3510C	
410-19750-3	MW-507-W-201105	Total/NA	Water	3510C	
410-19750-4	MW-509-W-201105	Total/NA	Water	3510C	
410-19750-6	MW-515-W-201105	Total/NA	Water	3510C	
410-19750-7	MW-516-W-201105	Total/NA	Water	3510C	
410-19750-9	MW-519-W-201105	Total/NA	Water	3510C	
MB 410-65077/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-65077/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-65077/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-19750-1 DU	MW-504-W-201105	Total/NA	Water	3510C	
410-19750-2 DU	MW-506-W-201105	Total/NA	Water	3510C	

Cleanup Batch: 66767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	3630C	65077
410-19750-2	MW-506-W-201105	Total/NA	Water	3630C	65077
410-19750-3	MW-507-W-201105	Total/NA	Water	3630C	65077
410-19750-4	MW-509-W-201105	Total/NA	Water	3630C	65077
410-19750-6	MW-515-W-201105	Total/NA	Water	3630C	65077
410-19750-7	MW-516-W-201105	Total/NA	Water	3630C	65077
410-19750-9	MW-519-W-201105	Total/NA	Water	3630C	65077
MB 410-65077/1-B	Method Blank	Total/NA	Water	3630C	65077
LCS 410-65077/2-B	Lab Control Sample	Total/NA	Water	3630C	65077
LCSD 410-65077/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	65077
410-19750-1 DU	MW-504-W-201105	Total/NA	Water	3630C	65077
410-19750-2 DU	MW-506-W-201105	Total/NA	Water	3630C	65077

Analysis Batch: 67201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-2	MW-506-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-3	MW-507-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-4	MW-509-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-6	MW-515-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-7	MW-516-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-9	MW-519-W-201105	Total/NA	Water	NWTPH-Dx	66767
MB 410-65077/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	66767
LCS 410-65077/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	66767
LCSD 410-65077/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	66767
410-19750-1 DU	MW-504-W-201105	Total/NA	Water	NWTPH-Dx	66767
410-19750-2 DU	MW-506-W-201105	Total/NA	Water	NWTPH-Dx	66767

Prep Batch: 68865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1 - RE	MW-504-W-201105	Total/NA	Water	3510C	
410-19750-3 - RE	MW-507-W-201105	Total/NA	Water	3510C	
410-19750-4 - RE	MW-509-W-201105	Total/NA	Water	3510C	
410-19750-5	MW-514-W-201105	Total/NA	Water	3510C	
410-19750-6 - RE	MW-515-W-201105	Total/NA	Water	3510C	
410-19750-7 - RE	MW-516-W-201105	Total/NA	Water	3510C	

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

GC Semi VOA (Continued)

Prep Batch: 68865 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-8	MW-518-W-201105	Total/NA	Water	3510C	
410-19750-10	MW-520-W-201105	Total/NA	Water	3510C	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	3510C	
MB 410-68865/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	3510C	

Prep Batch: 69554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-9 - RE	MW-519-W-201105	Total/NA	Water	3510C	
MB 410-69554/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-69554/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-69554/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Cleanup Batch: 70750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1 - RE	MW-504-W-201105	Total/NA	Water	3630C	68865
410-19750-3 - RE	MW-507-W-201105	Total/NA	Water	3630C	68865
410-19750-4 - RE	MW-509-W-201105	Total/NA	Water	3630C	68865
410-19750-5	MW-514-W-201105	Total/NA	Water	3630C	68865
410-19750-6 - RE	MW-515-W-201105	Total/NA	Water	3630C	68865
410-19750-7 - RE	MW-516-W-201105	Total/NA	Water	3630C	68865
410-19750-8	MW-518-W-201105	Total/NA	Water	3630C	68865
410-19750-10	MW-520-W-201105	Total/NA	Water	3630C	68865
410-19750-11	DUP-4-WD-201105	Total/NA	Water	3630C	68865
MB 410-68865/1-B	Method Blank	Total/NA	Water	3630C	68865
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	3630C	68865

Cleanup Batch: 70752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-9 - RE	MW-519-W-201105	Total/NA	Water	3630C	69554
MB 410-69554/1-B	Method Blank	Total/NA	Water	3630C	69554
LCS 410-69554/2-B	Lab Control Sample	Total/NA	Water	3630C	69554
LCSD 410-69554/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	69554

Analysis Batch: 71017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1 - RE	MW-504-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-3 - RE	MW-507-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-4 - RE	MW-509-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-5	MW-514-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-6 - RE	MW-515-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-7 - RE	MW-516-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-8	MW-518-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-9 - RE	MW-519-W-201105	Total/NA	Water	NWTPH-Dx	70752
410-19750-10	MW-520-W-201105	Total/NA	Water	NWTPH-Dx	70750
410-19750-11	DUP-4-WD-201105	Total/NA	Water	NWTPH-Dx	70750
MB 410-68865/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	70750
MB 410-69554/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	70752
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	70750
LCS 410-69554/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	70752
LCSD 410-69554/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	70752

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

HPLC/IC

Analysis Batch: 63706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-4	MW-509-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-5	MW-514-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-8	MW-518-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-9	MW-519-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-10	MW-520-W-201105	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63706/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63706/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-8	MW-518-W-201105	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-11	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63722/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63722/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19750-11 MS	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-11 DU	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-2	MW-506-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-6	MW-515-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-7	MW-516-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-11	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63723/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63723/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19750-1 MS	MW-504-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-11 MS	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-1 DU	MW-504-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-11 DU	DUP-4-WD-201105	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 69971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-4	MW-509-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-5	MW-514-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-6	MW-515-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-7	MW-516-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-9	MW-519-W-201105	Total/NA	Water	EPA 300.0 R2.1	
410-19750-10	MW-520-W-201105	Total/NA	Water	EPA 300.0 R2.1	
MB 410-69971/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-69971/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 70097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-2	MW-506-W-201105	Total/NA	Water	EPA 300.0 R2.1	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

HPLC/IC (Continued)

Analysis Batch: 70097 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-70097/23	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-70097/22	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 63957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-4	MW-509-W-201105	Dissolved	Water	Non-Digest Prep	
MB 410-63957/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-63957/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Prep Batch: 63963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-11	DUP-4-WD-201105	Dissolved	Water	Non-Digest Prep	
MB 410-63963/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-63963/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Prep Batch: 64225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-5	MW-514-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-6	MW-515-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-7	MW-516-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-8	MW-518-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-10	MW-520-W-201105	Dissolved	Water	Non-Digest Prep	
MB 410-64225/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-64225/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Prep Batch: 64380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-2	MW-506-W-201105	Dissolved	Water	Non-Digest Prep	
410-19750-9	MW-519-W-201105	Dissolved	Water	Non-Digest Prep	
MB 410-64380/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-64380/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 64823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-3	MW-507-W-201105	Dissolved	Water	200.8 Rev 5.4	63957
410-19750-4	MW-509-W-201105	Dissolved	Water	200.8 Rev 5.4	63957
MB 410-63957/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	63957
LCS 410-63957/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	63957

Analysis Batch: 65569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-11	DUP-4-WD-201105	Dissolved	Water	200.8 Rev 5.4	63963
MB 410-63963/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	63963
LCS 410-63963/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	63963

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Metals

Analysis Batch: 65670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-2	MW-506-W-201105	Dissolved	Water	200.8 Rev 5.4	64380
410-19750-9	MW-519-W-201105	Dissolved	Water	200.8 Rev 5.4	64380
MB 410-64380/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	64380
LCS 410-64380/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	64380

Analysis Batch: 66143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19750-1	MW-504-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
410-19750-5	MW-514-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
410-19750-6	MW-515-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
410-19750-7	MW-516-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
410-19750-8	MW-518-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
410-19750-10	MW-520-W-201105	Dissolved	Water	200.8 Rev 5.4	64225
MB 410-64225/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	64225
LCS 410-64225/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	64225

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-504-W-201105

Lab Sample ID: 410-19750-1

Date Collected: 11/05/20 09:55

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 10:30	UCB5	ELLE
Total/NA	Prep	3510C			65087	11/12/20 09:00	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65881	11/14/20 01:21	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/09/20 23:46	JJT8	ELLE
Total/NA	Prep	RSK-175			63313	11/07/20 15:25	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/08/20 05:35	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/17/20 22:35	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	11/30/20 21:19	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63723	11/07/20 13:10	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	69971	11/24/20 11:46	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:28	V5SW	ELLE

Client Sample ID: MW-506-W-201105

Lab Sample ID: 410-19750-2

Date Collected: 11/05/20 11:20

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 10:52	UCB5	ELLE
Total/NA	Prep	3510C			65087	11/12/20 09:00	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65881	11/14/20 01:52	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 00:37	JJT8	ELLE
Total/NA	Prep	RSK-175			64663	11/11/20 09:10	LXF2	ELLE
Total/NA	Analysis	RSK-175		20	64679	11/11/20 10:34	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/17/20 23:20	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63723	11/07/20 14:40	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	70097	11/25/20 04:05	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64380	11/10/20 17:31	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65670	11/12/20 20:30	V5SW	ELLE

Client Sample ID: MW-507-W-201105

Lab Sample ID: 410-19750-3

Date Collected: 11/05/20 09:50

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 11:13	UCB5	ELLE
Total/NA	Prep	3510C			65087	11/12/20 09:00	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65881	11/14/20 02:22	X3ZL	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-507-W-201105

Lab Sample ID: 410-19750-3

Date Collected: 11/05/20 09:50

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 01:03	JJT8	ELLE
Total/NA	Prep	RSK-175			64154	11/10/20 08:50	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 11:19	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 00:28	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	11/30/20 21:42	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 13:23	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63707	11/07/20 13:23	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:46	BMB	ELLE

Client Sample ID: MW-509-W-201105

Lab Sample ID: 410-19750-4

Date Collected: 11/05/20 12:40

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 11:35	UCB5	ELLE
Total/NA	Prep	3510C			65087	11/12/20 09:00	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65881	11/14/20 02:53	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 01:29	JJT8	ELLE
Total/NA	Prep	RSK-175			64154	11/10/20 08:50	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 11:38	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 00:51	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	11/30/20 22:05	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 15:57	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		200	69971	11/24/20 12:20	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:48	BMB	ELLE

Client Sample ID: MW-514-W-201105

Lab Sample ID: 410-19750-5

Date Collected: 11/05/20 10:50

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 11:57	UCB5	ELLE
Total/NA	Prep	3510C			65087	11/12/20 09:00	U2SJ	ELLE
Total/NA	Analysis	8270D SIM		1	65881	11/14/20 03:23	X3ZL	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-514-W-201105

Lab Sample ID: 410-19750-5

Date Collected: 11/05/20 10:50

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 01:54	JJT8	ELLE
Total/NA	Prep	RSK-175			63313	11/07/20 15:25	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/08/20 05:53	LXF2	ELLE
Total/NA	Prep	3510C			68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C			70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	71017	11/30/20 22:27	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 14:15	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	69971	11/24/20 12:37	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:30	V5SW	ELLE

Client Sample ID: MW-515-W-201105

Lab Sample ID: 410-19750-6

Date Collected: 11/05/20 12:30

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 12:19	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 11:54	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 02:20	JJT8	ELLE
Total/NA	Prep	RSK-175			63313	11/07/20 15:25	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/08/20 06:11	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 01:58	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	11/30/20 22:50	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63723	11/07/20 15:16	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		200	69971	11/24/20 12:54	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:26	V5SW	ELLE

Client Sample ID: MW-516-W-201105

Lab Sample ID: 410-19750-7

Date Collected: 11/05/20 13:30

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 12:41	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 12:22	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 02:46	JJT8	ELLE
Total/NA	Prep	RSK-175			63313	11/07/20 15:25	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/08/20 06:29	LXF2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-516-W-201105

Lab Sample ID: 410-19750-7

Date Collected: 11/05/20 13:30

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 02:21	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	11/30/20 23:13	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63723	11/07/20 16:29	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	69971	11/24/20 13:45	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:33	V5SW	ELLE

Client Sample ID: MW-518-W-201105

Lab Sample ID: 410-19750-8

Date Collected: 11/05/20 11:26

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 13:03	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 12:50	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 03:11	JJT8	ELLE
Total/NA	Prep	RSK-175			63615	11/09/20 08:27	LXF2	ELLE
Total/NA	Analysis	RSK-175		10	63642	11/09/20 12:09	LXF2	ELLE
Total/NA	Prep	3510C			68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C			70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	71017	11/30/20 23:36	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 15:23	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63707	11/07/20 15:23	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:31	V5SW	ELLE

Client Sample ID: MW-519-W-201105

Lab Sample ID: 410-19750-9

Date Collected: 11/05/20 11:15

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 13:25	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 13:19	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 03:37	JJT8	ELLE
Total/NA	Prep	RSK-175			63313	11/07/20 15:25	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/09/20 06:05	LXF2	ELLE
Total/NA	Prep	3510C			65077	11/12/20 09:00	U2SJ	ELLE
Total/NA	Cleanup	3630C			66767	11/17/20 04:40	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 03:06	KP5X	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: MW-519-W-201105

Lab Sample ID: 410-19750-9

Date Collected: 11/05/20 11:15

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C	RE		69554	11/23/20 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C	RE		70752	11/29/20 04:35	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	12/01/20 08:18	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 14:32	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		20	69971	11/24/20 14:02	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64380	11/10/20 17:31	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65670	11/12/20 20:32	V5SW	ELLE

Client Sample ID: MW-520-W-201105

Lab Sample ID: 410-19750-10

Date Collected: 11/05/20 12:20

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 13:47	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 13:47	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 04:03	JJT8	ELLE
Total/NA	Prep	RSK-175			63297	11/07/20 13:52	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	63298	11/07/20 20:28	LXF2	ELLE
Total/NA	Prep	3510C			68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C			70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	71017	11/30/20 23:58	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63706	11/07/20 15:40	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	69971	11/24/20 14:19	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			64225	11/10/20 10:23	UJL8	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	66143	11/14/20 12:24	V5SW	ELLE

Client Sample ID: DUP-4-WD-201105

Lab Sample ID: 410-19750-11

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 14:09	UCB5	ELLE
Total/NA	Prep	3510C			65400	11/12/20 18:50	QQ3P	ELLE
Total/NA	Analysis	8270D SIM		1	65552	11/13/20 14:15	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/10/20 04:29	JJT8	ELLE
Total/NA	Prep	RSK-175			63615	11/09/20 08:27	LXF2	ELLE
Total/NA	Analysis	RSK-175		10	63642	11/09/20 12:28	LXF2	ELLE
Total/NA	Prep	3510C			68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C			70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	71017	12/01/20 00:21	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63722	11/07/20 21:37	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63723	11/07/20 21:37	W5UX	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Client Sample ID: DUP-4-WD-201105

Lab Sample ID: 410-19750-11

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			63963	11/09/20 19:43	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	65569	11/12/20 17:24	BMB	ELLE

Client Sample ID: QA-T-201105

Lab Sample ID: 410-19750-12

Date Collected: 11/05/20 00:00

Matrix: Water

Date Received: 11/06/20 10:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	65997	11/14/20 10:08	UCB5	ELLE
Total/NA	Analysis	NWTPH-Gx		1	63834	11/09/20 20:20	JJT8	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 300.0 R2.1		Water	Nitrogen, Nitrate
EPA 300.0 R2.1		Water	Sulfate
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)
RSK-175	RSK-175	Water	Methane (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH	NWTPH	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19750-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-19750-1	MW-504-W-201105	Water	11/05/20 09:55	11/06/20 10:36	
410-19750-2	MW-506-W-201105	Water	11/05/20 11:20	11/06/20 10:36	
410-19750-3	MW-507-W-201105	Water	11/05/20 09:50	11/06/20 10:36	
410-19750-4	MW-509-W-201105	Water	11/05/20 12:40	11/06/20 10:36	
410-19750-5	MW-514-W-201105	Water	11/05/20 10:50	11/06/20 10:36	
410-19750-6	MW-515-W-201105	Water	11/05/20 12:30	11/06/20 10:36	
410-19750-7	MW-516-W-201105	Water	11/05/20 13:30	11/06/20 10:36	
410-19750-8	MW-518-W-201105	Water	11/05/20 11:26	11/06/20 10:36	
410-19750-9	MW-519-W-201105	Water	11/05/20 11:15	11/06/20 10:36	
410-19750-10	MW-520-W-201105	Water	11/05/20 12:20	11/06/20 10:36	
410-19750-11	DUP-4-WD-201105	Water	11/05/20 00:00	11/06/20 10:36	
410-19750-12	QA-T-201105	Water	11/05/20 00:00	11/06/20 10:36	



Lancaster Laboratories

Accel.



410-19750 Chain of Custody

Laboratories use only

Sample #

Correspond with circled numbers.

1 Client Information			4 Matrix			5 Analyses Requested										6 Remarks		
Facility # <u>WBS</u> <u>Edmonds Terminal</u>			Sediment <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/>			Total Number of Containers <u>8260 full scan</u>										SCR #: _____		
Site Address <u>11720 UNOCO Road, Edmonds, WA</u>			Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>			Oxygenates <u>NWTPH GX G20</u>										<input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Chevron PM <u>ICM Tolitz</u>			Lead Consultant <u>Arcadis</u>			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>WAVPH</u>												
Consultant/Office <u>1100 Olive Way, Suite 800, Seattle, WA 98101</u>			Oil <input type="checkbox"/>			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>WAVPH</u>										<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Consultant Project Mgr. <u>Sam Miles</u>			Composite <input type="checkbox"/>			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>WAVPH</u>												
Consultant Phone # <u>(206) 726-4720</u>			Soil <input type="checkbox"/>			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>WAVPH</u>										<input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits		
Sampler <u>Parish Gilbert, Kiley Zamb, Julia Wozniak, Michael MacDonell</u>			Water <input type="checkbox"/>			Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>WAVPH</u>												
2 Sample Identification		3 Collected		4 Matrix			5 Analyses Requested										6 Remarks	
Sample ID	Date	Time	Grab	Soil	Water	Oil	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAVPH	Remarks		
MW-504	11-5-20	0955	X		X		X		X	X						* use standard S6C		
MW-506	11-5	1120	X		X		X		X	X								
MW-507	11-5	0950	X		X		X		X	X								
MW-509	11-5	1240	X		X		X		X	X								
MW-514	11-5	1050	X		X		X		X	X								
MW-515	11-5	1230	X		X		X		X	X								
MW-516	11-5	1330	X		X		X		X	X								
MW-518	11-5	1126	X		X		X		X	X								
MW-519	11-5	1115	X		X		X		X	X								
MW-520	11-5	1220	X		X		X		X	X								
DUP-4	11-5	-	X		X		X		X	X								
Trip Blank	11-5	-					X		X									
7 Turnaround Time Requested (TAT) (please circle)			Relinquished by			Date			Time			Received by			Date		Time	
Standard 5 day 4 day			/			/			/			/			/		/	
72 hour 48 hour 24 hour			/			/			/			/			/		/	
8 Data Package Options (please circle if required)			Relinquished by Commercial Carrier:			Date			Time			Received by			Date		Time	
Type I - Full Type VI (Raw Data)			UPS FedEx X Other			/			/			/			11-7-2020		953	
			Temperature Upon Receipt 1.5 °C			/			/			Custody Seals Intact?			Yes		No	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-19750-1

Login Number: 19750

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	False	Refer to Job Narrative for details.
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-19750-1

Login Number: 19750

List Source: Eurofins Lancaster Laboratories Env

List Number: 2

Creator: Rivera-Santa, Julissa

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	

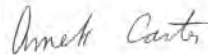
ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-19941-1
Client Project/Site: Edmonds Terminal

For:
ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:
12/1/2020 12:12:58 PM

Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



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www.eurofinsus.com/Env

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in cursive script, reading "Amek Carter".

Amek Carter
Project Manager
12/1/2020 12:12:58 PM



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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- 2
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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Job ID: 410-19941-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-19941-1

Receipt

The samples were received on 11/7/2020 9:50 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2°C, 2.4°C and 2.5°C

Receipt Exceptions

One HC I vial for the following sample was received empty: MW-20R-W-201106 (410-19941-2).

GC/MS VOA

Method 8260D: The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): MW-143-W-201106 (410-19941-5) and MW-143-W-201106 (410-19941-5[MS]). The sample container was received with headspace.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method NWTPH_Dx: o- terphenyl (Surr) recovery for the following sample was outside control limits: MW-143-W-201106 (410-19941-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. The LCS associated with the second trial was below the lower control limits for C12-C24. Results are reported from both trials.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-521-W-201106 (410-19941-7) and MW-522-W-201106 (410-19941-8).

Method 300_ORGFMS: The following samples were analyzed outside of analytical holding time for Nitrogen, Nitrate due to laboratory error: MW-8R-W-201106 (410-19941-1), MW-20R-W-201106 (410-19941-2), MW-101-W-201106 (410-19941-3), MW-126-W-201106 (410-19941-4), MW-143-W-201106 (410-19941-5) and MW-517-W-201106 (410-19941-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-8R-W-201106

Lab Sample ID: 410-19941-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	47		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	12		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-20R-W-201106

Lab Sample ID: 410-19941-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	100		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	1100	F1	500	150	mg/L	500		EPA 300.0 R2.1	Total/NA
Manganese	600		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-101-W-201106

Lab Sample ID: 410-19941-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1600		250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	3900		100	60	ug/L	20		RSK-175	Total/NA
C12-C24	75	J	110	49	ug/L	1		NWTPH-Dx	Total/NA
Sulfate	100		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	11000		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-126-W-201106

Lab Sample ID: 410-19941-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Nitrate	0.38	J H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	29		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	16		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-143-W-201106

Lab Sample ID: 410-19941-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	11000	F1	250	150	ug/L	50		RSK-175	Total/NA
Sulfate	2.9	J F1	5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	2300		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-517-W-201106

Lab Sample ID: 410-19941-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	20	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
Methane (1C)	210		5.0	3.0	ug/L	1		RSK-175	Total/NA
Nitrogen, Nitrate	0.56	H	0.50	0.25	mg/L	5		EPA 300.0 R2.1	Total/NA
Sulfate	230		50	15	mg/L	50		EPA 300.0 R2.1	Total/NA
Manganese	2600		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-521-W-201106

Lab Sample ID: 410-19941-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	49		5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Manganese	69		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

Client Sample ID: MW-522-W-201106

Lab Sample ID: 410-19941-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (1C)	260		5.0	3.0	ug/L	1		RSK-175	Total/NA
Sulfate	85		25	7.5	mg/L	25		EPA 300.0 R2.1	Total/NA
Manganese	300		2.1	0.65	ug/L	1		200.8 Rev 5.4	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: QA-T-201106

Lab Sample ID: 410-19941-9

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-8R-W-201106

Lab Sample ID: 410-19941-1

Date Collected: 11/06/20 10:00

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 01:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					11/18/20 01:21	1
Dibromofluoromethane (Surr)	102		80 - 120					11/18/20 01:21	1
4-Bromofluorobenzene (Surr)	90		80 - 120					11/18/20 01:21	1
Toluene-d8 (Surr)	100		80 - 120					11/18/20 01:21	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Chrysene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		11/13/20 09:50	11/16/20 18:41	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 18:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	75		10 - 122				11/13/20 09:50	11/16/20 18:41	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115				11/13/20 09:50	11/16/20 18:41	1
Fluoranthene-d10 (Surr)	86		65 - 129				11/13/20 09:50	11/16/20 18:41	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 17:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150					11/11/20 17:04	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/11/20 09:10	11/11/20 10:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	102		28 - 140				11/11/20 09:10	11/11/20 10:15	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		11/13/20 09:50	11/18/20 05:22	1
C24-C40	ND		270	110	ug/L		11/13/20 09:50	11/18/20 05:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/13/20 09:50	11/18/20 05:22	1
o-terphenyl (Surr)	66		50 - 150				11/13/20 09:50	11/18/20 05:22	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/09/20 13:41	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-8R-W-201106

Lab Sample ID: 410-19941-1

Date Collected: 11/06/20 10:00

Matrix: Water

Date Received: 11/07/20 09:50

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	47		5.0	1.5	mg/L			11/09/20 13:41	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	12		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:36	1

Client Sample ID: MW-20R-W-201106

Lab Sample ID: 410-19941-2

Date Collected: 11/06/20 10:55

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 120		11/18/20 01:43	1
Dibromofluoromethane (Surr)	102		80 - 120		11/18/20 01:43	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/18/20 01:43	1
Toluene-d8 (Surr)	101		80 - 120		11/18/20 01:43	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1
Chrysene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1
Dibenz(a,h)anthracene	ND		0.073	0.021	ug/L		11/13/20 09:50	11/16/20 19:09	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.010	ug/L		11/13/20 09:50	11/16/20 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	22		10 - 122	11/13/20 09:50	11/16/20 19:09	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115	11/13/20 09:50	11/16/20 19:09	1
Fluoranthene-d10 (Surr)	87		65 - 129	11/13/20 09:50	11/16/20 19:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/11/20 17:30	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	100		5.0	3.0	ug/L		11/10/20 08:57	11/10/20 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	85		28 - 140	11/10/20 08:57	11/10/20 17:16	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/13/20 09:50	11/18/20 06:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-20R-W-201106

Lab Sample ID: 410-19941-2

Date Collected: 11/06/20 10:55

Matrix: Water

Date Received: 11/07/20 09:50

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		270	110	ug/L		11/13/20 09:50	11/18/20 06:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/13/20 09:50	11/18/20 06:08	1
<i>o-terphenyl (Surr)</i>	67		50 - 150				11/13/20 09:50	11/18/20 06:08	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/09/20 13:58	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1100	F1	500	150	mg/L			11/21/20 13:00	500

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	600		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:44	1

Client Sample ID: MW-101-W-201106

Lab Sample ID: 410-19941-3

Date Collected: 11/06/20 11:15

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 02:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	105		80 - 120					11/18/20 02:05	1
<i>Dibromofluoromethane (Surr)</i>	103		80 - 120					11/18/20 02:05	1
<i>4-Bromofluorobenzene (Surr)</i>	96		80 - 120					11/18/20 02:05	1
<i>Toluene-d8 (Surr)</i>	97		80 - 120					11/18/20 02:05	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Chrysene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Dibenz(a,h)anthracene	ND		0.077	0.022	ug/L		11/13/20 09:50	11/16/20 19:37	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 19:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	28		10 - 122				11/13/20 09:50	11/16/20 19:37	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	125	X	49 - 115				11/13/20 09:50	11/16/20 19:37	1
<i>Fluoranthene-d10 (Surr)</i>	90		65 - 129				11/13/20 09:50	11/16/20 19:37	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1600		250	19	ug/L			11/11/20 17:56	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-101-W-201106

Lab Sample ID: 410-19941-3

Date Collected: 11/06/20 11:15

Matrix: Water

Date Received: 11/07/20 09:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		11/11/20 17:56	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	3900		100	60	ug/L		11/11/20 09:10	11/11/20 11:31	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	101		28 - 140	11/11/20 09:10	11/11/20 11:31	20

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	75	J	110	49	ug/L		11/13/20 09:50	11/18/20 06:30	1
C24-C40	ND		270	110	ug/L		11/13/20 09:50	11/18/20 06:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/13/20 09:50	11/18/20 06:30	1
o-terphenyl (Surr)	65		50 - 150	11/13/20 09:50	11/18/20 06:30	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/09/20 14:15	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	100		50	15	mg/L			11/21/20 13:51	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	11000		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:38	1

Client Sample ID: MW-126-W-201106

Lab Sample ID: 410-19941-4

Date Collected: 11/06/20 12:30

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		11/18/20 02:27	1
Dibromofluoromethane (Surr)	103		80 - 120		11/18/20 02:27	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/18/20 02:27	1
Toluene-d8 (Surr)	99		80 - 120		11/18/20 02:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1
Chrysene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1
Dibenz[a,h]anthracene	ND		0.078	0.022	ug/L		11/13/20 09:50	11/16/20 20:06	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.011	ug/L		11/13/20 09:50	11/16/20 20:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-126-W-201106

Lab Sample ID: 410-19941-4

Date Collected: 11/06/20 12:30

Matrix: Water

Date Received: 11/07/20 09:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	81		10 - 122	11/13/20 09:50	11/16/20 20:06	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115	11/13/20 09:50	11/16/20 20:06	1
Fluoranthene-d10 (Surr)	87		65 - 129	11/13/20 09:50	11/16/20 20:06	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/11/20 18:22	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/10/20 08:57	11/10/20 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	84		28 - 140	11/10/20 08:57	11/10/20 17:55	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L		11/13/20 09:50	11/18/20 06:53	1
C24-C40	ND		270	110	ug/L		11/13/20 09:50	11/18/20 06:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/13/20 09:50	11/18/20 06:53	1
o-terphenyl (Surr)	65		50 - 150	11/13/20 09:50	11/18/20 06:53	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.38	J H	0.50	0.25	mg/L			11/09/20 14:32	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	29		5.0	1.5	mg/L			11/09/20 14:32	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	16		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:30	1

Client Sample ID: MW-143-W-201106

Lab Sample ID: 410-19941-5

Date Collected: 11/06/20 10:30

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 02:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/18/20 02:49	1
Dibromofluoromethane (Surr)	102		80 - 120		11/18/20 02:49	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/18/20 02:49	1
Toluene-d8 (Surr)	100		80 - 120		11/18/20 02:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-143-W-201106

Lab Sample ID: 410-19941-5

Date Collected: 11/06/20 10:30

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Chrysene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Dibenz(a,h)anthracene	ND		0.071	0.020	ug/L		11/13/20 09:50	11/16/20 20:34	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.010	ug/L		11/13/20 09:50	11/16/20 20:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	78		10 - 122				11/13/20 09:50	11/16/20 20:34	1
1-Methylnaphthalene-d10 (Surr)	75		49 - 115				11/13/20 09:50	11/16/20 20:34	1
Fluoranthene-d10 (Surr)	83		65 - 129				11/13/20 09:50	11/16/20 20:34	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 15:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	88		50 - 150					11/11/20 15:47	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	11000	F1	250	150	ug/L		11/11/20 09:10	11/11/20 12:10	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	100		28 - 140				11/11/20 09:10	11/11/20 12:10	50

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		11/13/20 09:50	11/18/20 07:16	1
C24-C40	ND		250	100	ug/L		11/13/20 09:50	11/18/20 07:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/13/20 09:50	11/18/20 07:16	1
o-terphenyl (Surr)	29	X	50 - 150				11/13/20 09:50	11/18/20 07:16	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H F1	0.50	0.25	mg/L			11/09/20 15:58	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.9	J F1	5.0	1.5	mg/L			11/09/20 15:58	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2300		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-517-W-201106

Lab Sample ID: 410-19941-6

Date Collected: 11/06/20 10:10

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 03:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120					11/18/20 03:54	1
Dibromofluoromethane (Surr)	101		80 - 120					11/18/20 03:54	1
4-Bromofluorobenzene (Surr)	93		80 - 120					11/18/20 03:54	1
Toluene-d8 (Surr)	101		80 - 120					11/18/20 03:54	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Chrysene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Dibenz(a,h)anthracene	ND		0.079	0.023	ug/L		11/13/20 09:50	11/16/20 21:59	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.011	ug/L		11/13/20 09:50	11/16/20 21:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	14		10 - 122				11/13/20 09:50	11/16/20 21:59	1
1-Methylnaphthalene-d10 (Surr)	78		49 - 115				11/13/20 09:50	11/16/20 21:59	1
Fluoranthene-d10 (Surr)	86		65 - 129				11/13/20 09:50	11/16/20 21:59	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	20	J	250	19	ug/L			11/11/20 18:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150					11/11/20 18:47	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	210		5.0	3.0	ug/L		11/10/20 08:57	11/10/20 19:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	85		28 - 140				11/10/20 08:57	11/10/20 19:30	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		11/13/20 09:50	11/18/20 08:24	1
C24-C40	ND		280	110	ug/L		11/13/20 09:50	11/18/20 08:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				11/13/20 09:50	11/18/20 08:24	1
o-terphenyl (Surr)	57		50 - 150				11/13/20 09:50	11/18/20 08:24	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.56	H	0.50	0.25	mg/L			11/09/20 16:15	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-517-W-201106

Lab Sample ID: 410-19941-6

Date Collected: 11/06/20 10:10

Matrix: Water

Date Received: 11/07/20 09:50

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	230		50	15	mg/L			11/24/20 23:54	50

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2600		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:26	1

Client Sample ID: MW-521-W-201106

Lab Sample ID: 410-19941-7

Date Collected: 11/06/20 09:45

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/18/20 04:17	1
Dibromofluoromethane (Surr)	101		80 - 120		11/18/20 04:17	1
4-Bromofluorobenzene (Surr)	92		80 - 120		11/18/20 04:17	1
Toluene-d8 (Surr)	100		80 - 120		11/18/20 04:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1
Chrysene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1
Dibenz(a,h)anthracene	ND		0.074	0.021	ug/L		11/13/20 09:50	11/16/20 22:27	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.011	ug/L		11/13/20 09:50	11/16/20 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	71		10 - 122	11/13/20 09:50	11/16/20 22:27	1
1-Methylnaphthalene-d10 (Surr)	73		49 - 115	11/13/20 09:50	11/16/20 22:27	1
Fluoranthene-d10 (Surr)	82		65 - 129	11/13/20 09:50	11/16/20 22:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/11/20 19:13	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/10/20 08:57	11/10/20 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	11/10/20 08:57	11/10/20 19:49	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		11/13/20 09:50	11/18/20 08:46	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-521-W-201106

Lab Sample ID: 410-19941-7

Date Collected: 11/06/20 09:45

Matrix: Water

Date Received: 11/07/20 09:50

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40	ND		260	110	ug/L		11/13/20 09:50	11/18/20 08:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1				11/13/20 09:50	11/18/20 08:46	1
<i>o-terphenyl (Surr)</i>	78		50 - 150				11/13/20 09:50	11/18/20 08:46	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/11/20 12:45	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	49		5.0	1.5	mg/L			11/11/20 12:45	5

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	69		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:28	1

Client Sample ID: MW-522-W-201106

Lab Sample ID: 410-19941-8

Date Collected: 11/06/20 11:10

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 04:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		80 - 120					11/18/20 04:38	1
<i>Dibromofluoromethane (Surr)</i>	101		80 - 120					11/18/20 04:38	1
<i>4-Bromofluorobenzene (Surr)</i>	92		80 - 120					11/18/20 04:38	1
<i>Toluene-d8 (Surr)</i>	101		80 - 120					11/18/20 04:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Chrysene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Dibenz(a,h)anthracene	ND		0.075	0.022	ug/L		11/13/20 09:50	11/16/20 22:55	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.011	ug/L		11/13/20 09:50	11/16/20 22:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	65		10 - 122				11/13/20 09:50	11/16/20 22:55	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	84		49 - 115				11/13/20 09:50	11/16/20 22:55	1
<i>Fluoranthene-d10 (Surr)</i>	90		65 - 129				11/13/20 09:50	11/16/20 22:55	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 20:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-522-W-201106

Lab Sample ID: 410-19941-8

Date Collected: 11/06/20 11:10

Matrix: Water

Date Received: 11/07/20 09:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		11/11/20 20:04	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	260		5.0	3.0	ug/L		11/11/20 09:15	11/11/20 10:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	87		28 - 140	11/11/20 09:15	11/11/20 10:35	1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		11/13/20 09:50	11/18/20 09:09	1
C24-C40	ND		270	110	ug/L		11/13/20 09:50	11/18/20 09:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	11/13/20 09:50	11/18/20 09:09	1
o-terphenyl (Surr)	84		50 - 150	11/13/20 09:50	11/18/20 09:09	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H	0.50	0.25	mg/L			11/11/20 14:10	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	85		25	7.5	mg/L			11/25/20 00:11	25

Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	300		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 14:32	1

Client Sample ID: QA-T-201106

Lab Sample ID: 410-19941-9

Date Collected: 11/06/20 00:00

Matrix: Water

Date Received: 11/07/20 09:50

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/18/20 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/18/20 00:14	1
Dibromofluoromethane (Surr)	103		80 - 120		11/18/20 00:14	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/18/20 00:14	1
Toluene-d8 (Surr)	100		80 - 120		11/18/20 00:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	86		50 - 150		11/11/20 14:56	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-19941-1	MW-8R-W-201106	105	102	90	100
410-19941-2	MW-20R-W-201106	107	102	89	101
410-19941-3	MW-101-W-201106	105	103	96	97
410-19941-4	MW-126-W-201106	106	103	91	99
410-19941-5	MW-143-W-201106	104	102	91	100
410-19941-5 MS	MW-143-W-201106	101	100	97	100
410-19941-5 MSD	MW-143-W-201106	102	100	98	102
410-19941-6	MW-517-W-201106	104	101	93	101
410-19941-7	MW-521-W-201106	104	101	92	100
410-19941-8	MW-522-W-201106	104	101	92	101
410-19941-9	QA-T-201106	104	103	91	100
LCS 410-67227/4	Lab Control Sample	104	101	97	101
MB 410-67227/6	Method Blank	105	102	92	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
410-19941-1	MW-8R-W-201106	75	78	86
410-19941-2	MW-20R-W-201106	22	78	87
410-19941-3	MW-101-W-201106	28	125 X	90
410-19941-4	MW-126-W-201106	81	78	87
410-19941-5	MW-143-W-201106	78	75	83
410-19941-5 MS	MW-143-W-201106	74	88	66
410-19941-5 MSD	MW-143-W-201106	71	86	93
410-19941-6	MW-517-W-201106	14	78	86
410-19941-7	MW-521-W-201106	71	73	82
410-19941-8	MW-522-W-201106	65	84	90
LCS 410-65591/2-A	Lab Control Sample	92	83	88
LCSD 410-65591/3-A	Lab Control Sample Dup	88	82	83
MB 410-65591/1-A	Method Blank	99	91	95

Surrogate Legend

BAPd12 = Benzo(a)pyrene-d12 (Surr)
MNPd10 = 1-Methylnaphthalene-d10 (Surr)
FLN10 = Fluoranthene-d10 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-19941-1	MW-8R-W-201106	87
410-19941-2	MW-20R-W-201106	86
410-19941-3	MW-101-W-201106	87
410-19941-4	MW-126-W-201106	86
410-19941-5	MW-143-W-201106	88
410-19941-5 MS	MW-143-W-201106	77
410-19941-5 MSD	MW-143-W-201106	78
410-19941-6	MW-517-W-201106	86
410-19941-7	MW-521-W-201106	86
410-19941-8	MW-522-W-201106	87
410-19941-9	QA-T-201106	86
LCS 410-64719/5	Lab Control Sample	79
LCSD 410-64719/6	Lab Control Sample Dup	78
MB 410-64719/4	Method Blank	87

Surrogate Legend
 TFT-F = a,a,a-Trifluorotoluene (fid)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-19941-1	MW-8R-W-201106	102
410-19941-2	MW-20R-W-201106	85
410-19941-3	MW-101-W-201106	101
410-19941-4	MW-126-W-201106	84
410-19941-5	MW-143-W-201106	100
410-19941-5 MS	MW-143-W-201106	94
410-19941-5 MSD	MW-143-W-201106	102
410-19941-6	MW-517-W-201106	85
410-19941-7	MW-521-W-201106	87
410-19941-8	MW-522-W-201106	87
LCS 410-64146/2-A	Lab Control Sample	98
LCS 410-64663/2-A	Lab Control Sample	101
LCS 410-64669/2-A	Lab Control Sample	99
LCSD 410-64669/3-A	Lab Control Sample Dup	97
MB 410-64146/1-A	Method Blank	97
MB 410-64663/1-A	Method Blank	104
MB 410-64669/1-A	Method Blank	99

Surrogate Legend
 Propene = Propene

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)				
Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)	
410-19941-1	MW-8R-W-201106	0.3	66	

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Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NDA (0-1)	OTP (50-150)
410-19941-1 DU	MW-8R-W-201106	0.3	60
410-19941-2	MW-20R-W-201106	0.3	67
410-19941-3	MW-101-W-201106	0.3	65
410-19941-4	MW-126-W-201106	0.3	65
410-19941-5	MW-143-W-201106	0.3	29 X
410-19941-5 MS	MW-143-W-201106	0.4	53
410-19941-5 MSD	MW-143-W-201106	0.4	73
410-19941-6	MW-517-W-201106	0.3	57
410-19941-7	MW-521-W-201106	0.3	78
410-19941-8	MW-522-W-201106	0.3	84
LCS 410-65594/2-B	Lab Control Sample	0.4	79
MB 410-65594/1-B	Method Blank	0.3	75

Surrogate Legend

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-67227/6

Matrix: Water

Analysis Batch: 67227

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			11/17/20 23:11	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					11/17/20 23:11	1
Dibromofluoromethane (Surr)	102		80 - 120					11/17/20 23:11	1
4-Bromofluorobenzene (Surr)	92		80 - 120					11/17/20 23:11	1
Toluene-d8 (Surr)	100		80 - 120					11/17/20 23:11	1

Lab Sample ID: LCS 410-67227/4

Matrix: Water

Analysis Batch: 67227

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.5		ug/L		103	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		80 - 120				
Dibromofluoromethane (Surr)	101		80 - 120				
4-Bromofluorobenzene (Surr)	97		80 - 120				
Toluene-d8 (Surr)	101		80 - 120				

Lab Sample ID: 410-19941-5 MS

Matrix: Water

Analysis Batch: 67227

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	21.6		ug/L		108	80 - 120
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		80 - 120						
Dibromofluoromethane (Surr)	100		80 - 120						
4-Bromofluorobenzene (Surr)	97		80 - 120						
Toluene-d8 (Surr)	100		80 - 120						

Lab Sample ID: 410-19941-5 MSD

Matrix: Water

Analysis Batch: 67227

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	ND		20.0	21.5		ug/L		107	80 - 120	1	30
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	102		80 - 120								
Dibromofluoromethane (Surr)	100		80 - 120								
4-Bromofluorobenzene (Surr)	98		80 - 120								
Toluene-d8 (Surr)	102		80 - 120								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-65591/1-A

Matrix: Water

Analysis Batch: 66276

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 65591

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzo[a]anthracene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1
Benzo[b]fluoranthene	0.0214	J	0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1
Benzo[k]fluoranthene	0.0173	J	0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1
Chrysene	0.0108	J	0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1
Dibenz(a,h)anthracene	ND		0.070	0.020	ug/L		11/13/20 09:50	11/16/20 14:27	1
Indeno[1,2,3-cd]pyrene	0.0226	J	0.050	0.010	ug/L		11/13/20 09:50	11/16/20 14:27	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Benzo(a)pyrene-d12 (Surr)	99		10 - 122	11/13/20 09:50	11/16/20 14:27	1
1-Methylnaphthalene-d10 (Surr)	91		49 - 115	11/13/20 09:50	11/16/20 14:27	1
Fluoranthene-d10 (Surr)	95		65 - 129	11/13/20 09:50	11/16/20 14:27	1

Lab Sample ID: LCS 410-65591/2-A

Matrix: Water

Analysis Batch: 66276

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 65591

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	1.00	0.946		ug/L		95	73 - 117
Benzo[b]fluoranthene	1.00	1.06		ug/L		106	72 - 123
Benzo[k]fluoranthene	1.00	0.977		ug/L		98	66 - 124
Chrysene	1.00	0.939		ug/L		94	61 - 117
Dibenz(a,h)anthracene	1.00	1.03		ug/L		103	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	1.15		ug/L		115	57 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	92		10 - 122
1-Methylnaphthalene-d10 (Surr)	83		49 - 115
Fluoranthene-d10 (Surr)	88		65 - 129

Lab Sample ID: LCSD 410-65591/3-A

Matrix: Water

Analysis Batch: 66276

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 65591

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Benzo[a]anthracene	1.00	0.988		ug/L		99	69 - 119	3	30
Benzo[a]pyrene	1.00	0.904		ug/L		90	73 - 117	5	30
Benzo[b]fluoranthene	1.00	1.02		ug/L		102	72 - 123	5	30
Benzo[k]fluoranthene	1.00	0.899		ug/L		90	66 - 124	8	30
Chrysene	1.00	0.906		ug/L		91	61 - 117	4	30
Dibenz(a,h)anthracene	1.00	0.947		ug/L		95	60 - 118	9	30
Indeno[1,2,3-cd]pyrene	1.00	1.07		ug/L		107	57 - 134	7	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	88		10 - 122
1-Methylnaphthalene-d10 (Surr)	82		49 - 115

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 410-65591/3-A
Matrix: Water
Analysis Batch: 66276

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65591

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Fluoranthene-d10 (Surr)	83		65 - 129

Lab Sample ID: 410-19941-5 MS
Matrix: Water
Analysis Batch: 66276

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA
Prep Batch: 65591

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier				Limits	
Benzo[a]anthracene	ND		1.01	1.01		ug/L		100	69 - 119	
Benzo[a]pyrene	ND		1.01	0.784		ug/L		78	73 - 117	
Benzo[b]fluoranthene	ND		1.01	0.984		ug/L		98	72 - 123	
Benzo[k]fluoranthene	ND		1.01	0.902		ug/L		90	66 - 124	
Chrysene	ND		1.01	0.983		ug/L		98	61 - 117	
Dibenz(a,h)anthracene	ND		1.01	0.770		ug/L		76	60 - 118	
Indeno[1,2,3-cd]pyrene	ND		1.01	0.846		ug/L		84	57 - 134	

Surrogate	MS		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	74		10 - 122
1-Methylnaphthalene-d10 (Surr)	88		49 - 115
Fluoranthene-d10 (Surr)	66		65 - 129

Lab Sample ID: 410-19941-5 MSD
Matrix: Water
Analysis Batch: 66276

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA
Prep Batch: 65591

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	
Benzo[a]anthracene	ND		1.02	1.00		ug/L		98	69 - 119	1	30
Benzo[a]pyrene	ND		1.02	0.764		ug/L		75	73 - 117	3	30
Benzo[b]fluoranthene	ND		1.02	0.909		ug/L		89	72 - 123	8	30
Benzo[k]fluoranthene	ND		1.02	0.903		ug/L		88	66 - 124	0	30
Chrysene	ND		1.02	1.01		ug/L		99	61 - 117	3	30
Dibenz(a,h)anthracene	ND		1.02	0.768		ug/L		75	60 - 118	0	30
Indeno[1,2,3-cd]pyrene	ND		1.02	0.843		ug/L		82	57 - 134	0	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	71		10 - 122
1-Methylnaphthalene-d10 (Surr)	86		49 - 115
Fluoranthene-d10 (Surr)	93		65 - 129

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-64719/4
Matrix: Water
Analysis Batch: 64719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C7-C12 (1C)	ND		250	19	ug/L			11/11/20 13:39	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-64719/4

Matrix: Water

Analysis Batch: 64719

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	87		50 - 150		11/11/20 13:39	1

Lab Sample ID: LCS 410-64719/5

Matrix: Water

Analysis Batch: 64719

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100	1080		ug/L		98	64 - 131

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	79		50 - 150

Lab Sample ID: LCSD 410-64719/6

Matrix: Water

Analysis Batch: 64719

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C7-C12 (1C)	1100	1070		ug/L		98	64 - 131	1	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150

Lab Sample ID: 410-19941-5 MS

Matrix: Water

Analysis Batch: 64719

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	ND		1120	1220		ug/L		109	80 - 120

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150

Lab Sample ID: 410-19941-5 MSD

Matrix: Water

Analysis Batch: 64719

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C7-C12 (1C)	ND		1120	1230		ug/L		110	80 - 120	0	30

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	78		50 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-64146/1-A
Matrix: Water
Analysis Batch: 64182

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/10/20 08:57	11/10/20 14:04	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	97		28 - 140				11/10/20 08:57	11/10/20 14:04	1

Lab Sample ID: LCS 410-64146/2-A
Matrix: Water
Analysis Batch: 64182

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	61.4		ug/L		103	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	98		28 - 140				

Lab Sample ID: MB 410-64663/1-A
Matrix: Water
Analysis Batch: 64679

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		11/11/20 09:10	11/11/20 09:28	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	104		28 - 140				11/11/20 09:10	11/11/20 09:28	1

Lab Sample ID: LCS 410-64663/2-A
Matrix: Water
Analysis Batch: 64679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	59.4	60.8		ug/L		102	85 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
Propene (1C)	101		28 - 140				

Lab Sample ID: 410-19941-5 MS
Matrix: Water
Analysis Batch: 64679

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA
Prep Batch: 64663

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (1C)	11000	F1	2970	13000	F1	ug/L		60	73 - 125
Surrogate	%Recovery	MS Qualifier	Limits						
Propene (1C)	94		28 - 140						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 410-19941-5 MSD

Matrix: Water

Analysis Batch: 64679

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Prep Batch: 64663

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Methane (1C)	11000	F1	2970	15500	F1	ug/L		145	73 - 125	18	30
Surrogate	%Recovery	Qualifier	Limits								
Propene (1C)	102		28 - 140								

Lab Sample ID: MB 410-64669/1-A

Matrix: Water

Analysis Batch: 64675

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 64669

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane (1C)	ND		5.0	3.0	ug/L		11/11/20 09:15	11/11/20 09:28	1
Surrogate	%Recovery	Qualifier	Limits						
Propene (1C)	99		28 - 140						
							Prepared	Analyzed	Dil Fac
							11/11/20 09:15	11/11/20 09:28	1

Lab Sample ID: LCS 410-64669/2-A

Matrix: Water

Analysis Batch: 64675

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 64669

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	RPD	Limit
		Result	Qualifier				Limits		
Methane (1C)	59.4	61.5		ug/L		104	85 - 115		
Surrogate	%Recovery	Qualifier	Limits						
Propene (1C)	99		28 - 140						

Lab Sample ID: LCSD 410-64669/3-A

Matrix: Water

Analysis Batch: 64675

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 64669

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	Limit
		Result	Qualifier				Limits		
Methane (1C)	59.4	59.8		ug/L		101	85 - 115	3	20
Surrogate	%Recovery	Qualifier	Limits						
Propene (1C)	97		28 - 140						

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-65594/1-B

Matrix: Water

Analysis Batch: 67201

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 65594

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		11/13/20 09:50	11/18/20 04:37	1
C24-C40	ND		250	100	ug/L		11/13/20 09:50	11/18/20 04:37	1
Surrogate	%Recovery	Qualifier	Limits						
n-Decanoic Acid (Surr)	0.3		0 - 1						
							Prepared	Analyzed	Dil Fac
							11/13/20 09:50	11/18/20 04:37	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: MB 410-65594/1-B

Matrix: Water

Analysis Batch: 67201

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 65594

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o</i> -terphenyl (Surr)	75		50 - 150	11/13/20 09:50	11/18/20 04:37	1

Lab Sample ID: LCS 410-65594/2-B

Matrix: Water

Analysis Batch: 67201

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 65594

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	603	250		ug/L		41	10 - 115
Surrogate	LCS LCS		Limits				
%Recovery	Qualifier						
<i>n</i> -Decanoic Acid (Surr)	0.4		0 - 1				
<i>o</i> -terphenyl (Surr)	79		50 - 150				

Lab Sample ID: 410-19941-5 MS

Matrix: Water

Analysis Batch: 67201

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Prep Batch: 65594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
C12-C24	ND		614	193		ug/L		32	30 - 115
Surrogate	MS MS		Limits						
%Recovery	Qualifier								
<i>n</i> -Decanoic Acid (Surr)	0.4		0 - 1						
<i>o</i> -terphenyl (Surr)	53		50 - 150						

Lab Sample ID: 410-19941-5 MSD

Matrix: Water

Analysis Batch: 67201

Client Sample ID: MW-143-W-201106

Prep Type: Total/NA

Prep Batch: 65594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
C12-C24	ND		612	201		ug/L		33	30 - 115	4	20
Surrogate	MSD MSD		Limits								
%Recovery	Qualifier										
<i>n</i> -Decanoic Acid (Surr)	0.4		0 - 1								
<i>o</i> -terphenyl (Surr)	73		50 - 150								

Lab Sample ID: 410-19941-1 DU

Matrix: Water

Analysis Batch: 67201

Client Sample ID: MW-8R-W-201106

Prep Type: Total/NA

Prep Batch: 65594

Analyte	Sample Result	Sample Qualifier	DU DU		Unit	D	RPD	RPD	
			Result	Qualifier				RPD	Limit
C12-C24	ND		1910		ug/L		NC	20	
C24-C40	ND		1180		ug/L		NC	20	
Surrogate	DU DU		Limits						
%Recovery	Qualifier								
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1						
<i>o</i> -terphenyl (Surr)	60		50 - 150						

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63761/4
Matrix: Water
Analysis Batch: 63761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/09/20 11:11	1

Lab Sample ID: LCS 410-63761/3
Matrix: Water
Analysis Batch: 63761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.686		mg/L		91	90 - 110

Lab Sample ID: 410-19941-5 MS
Matrix: Water
Analysis Batch: 63761

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H F1	2.50	2.05	H F1	mg/L		82	90 - 110

Lab Sample ID: 410-19941-5 DU
Matrix: Water
Analysis Batch: 63761

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H F1		ND	H	mg/L		NC	15

Lab Sample ID: MB 410-64739/4
Matrix: Water
Analysis Batch: 64739

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			11/11/20 11:01	1

Lab Sample ID: LCS 410-64739/3
Matrix: Water
Analysis Batch: 64739

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.699		mg/L		93	90 - 110

Lab Sample ID: 410-19941-7 MS
Matrix: Water
Analysis Batch: 64739

Client Sample ID: MW-521-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	H	2.50	2.36		mg/L		95	90 - 110

Lab Sample ID: 410-19941-7 DU
Matrix: Water
Analysis Batch: 64739

Client Sample ID: MW-521-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	H		ND		mg/L		NC	15

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-63762/4
Matrix: Water
Analysis Batch: 63762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/09/20 11:11	1

Lab Sample ID: LCS 410-63762/3
Matrix: Water
Analysis Batch: 63762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	6.91		mg/L		92	90 - 110

Lab Sample ID: 410-19941-5 MS
Matrix: Water
Analysis Batch: 63762

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.9	J F1	25.0	24.0	F1	mg/L		85	90 - 110

Lab Sample ID: 410-19941-5 DU
Matrix: Water
Analysis Batch: 63762

Client Sample ID: MW-143-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	2.9	J F1		3.51	J F5	mg/L		19	15

Lab Sample ID: MB 410-64740/4
Matrix: Water
Analysis Batch: 64740

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/11/20 11:01	1

Lab Sample ID: LCS 410-64740/3
Matrix: Water
Analysis Batch: 64740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.02		mg/L		94	90 - 110

Lab Sample ID: 410-19941-7 MS
Matrix: Water
Analysis Batch: 64740

Client Sample ID: MW-521-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	49		25.0	74.6		mg/L		101	90 - 110

Lab Sample ID: 410-19941-7 DU
Matrix: Water
Analysis Batch: 64740

Client Sample ID: MW-521-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	49			48.9		mg/L		0.7	15

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-68932/4
Matrix: Water
Analysis Batch: 68932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/21/20 12:43	1

Lab Sample ID: LCS 410-68932/3
Matrix: Water
Analysis Batch: 68932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.52		mg/L		100	90 - 110

Lab Sample ID: 410-19941-2 MS
Matrix: Water
Analysis Batch: 68932

Client Sample ID: MW-20R-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1100	F1	2500	3160	F1	mg/L		83	90 - 110

Lab Sample ID: 410-19941-2 DU
Matrix: Water
Analysis Batch: 68932

Client Sample ID: MW-20R-W-201106
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	1100	F1		1080		mg/L		0.2	15

Lab Sample ID: MB 410-70016/4
Matrix: Water
Analysis Batch: 70016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			11/24/20 15:18	1

Lab Sample ID: LCS 410-70016/3
Matrix: Water
Analysis Batch: 70016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.35		mg/L		98	90 - 110

Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-63957/1-A
Matrix: Water
Analysis Batch: 64823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		2.1	0.65	ug/L		11/09/20 19:25	11/11/20 13:56	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method: 200.8 Rev 5.4 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 410-63957/2-A
Matrix: Water
Analysis Batch: 64823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20.0	22.1		ug/L		111	85 - 115

Lab Sample ID: 410-19941-5 MS
Matrix: Water
Analysis Batch: 64823

Client Sample ID: MW-143-W-201106
Prep Type: Dissolved
Prep Batch: 63957

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	2300		20.0	2250	4	ug/L		-43	70 - 130

Lab Sample ID: 410-19941-5 MSD
Matrix: Water
Analysis Batch: 64823

Client Sample ID: MW-143-W-201106
Prep Type: Dissolved
Prep Batch: 63957

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	2300		20.0	2270	4	ug/L		46	70 - 130	1	20

Lab Sample ID: 410-19941-5 DU
Matrix: Water
Analysis Batch: 64823

Client Sample ID: MW-143-W-201106
Prep Type: Dissolved
Prep Batch: 63957

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	2300		2260		ug/L		0.2	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

GC/MS VOA

Analysis Batch: 67227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	8260D	
410-19941-2	MW-20R-W-201106	Total/NA	Water	8260D	
410-19941-3	MW-101-W-201106	Total/NA	Water	8260D	
410-19941-4	MW-126-W-201106	Total/NA	Water	8260D	
410-19941-5	MW-143-W-201106	Total/NA	Water	8260D	
410-19941-6	MW-517-W-201106	Total/NA	Water	8260D	
410-19941-7	MW-521-W-201106	Total/NA	Water	8260D	
410-19941-8	MW-522-W-201106	Total/NA	Water	8260D	
410-19941-9	QA-T-201106	Total/NA	Water	8260D	
MB 410-67227/6	Method Blank	Total/NA	Water	8260D	
LCS 410-67227/4	Lab Control Sample	Total/NA	Water	8260D	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	8260D	
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 65591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	3510C	
410-19941-2	MW-20R-W-201106	Total/NA	Water	3510C	
410-19941-3	MW-101-W-201106	Total/NA	Water	3510C	
410-19941-4	MW-126-W-201106	Total/NA	Water	3510C	
410-19941-5	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-6	MW-517-W-201106	Total/NA	Water	3510C	
410-19941-7	MW-521-W-201106	Total/NA	Water	3510C	
410-19941-8	MW-522-W-201106	Total/NA	Water	3510C	
MB 410-65591/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-65591/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-65591/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	3510C	

Analysis Batch: 66276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-2	MW-20R-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-3	MW-101-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-4	MW-126-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-5	MW-143-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-6	MW-517-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-7	MW-521-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-8	MW-522-W-201106	Total/NA	Water	8270D SIM	65591
MB 410-65591/1-A	Method Blank	Total/NA	Water	8270D SIM	65591
LCS 410-65591/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	65591
LCSD 410-65591/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	65591
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	8270D SIM	65591
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	8270D SIM	65591

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

GC VOA

Prep Batch: 64146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-2	MW-20R-W-201106	Total/NA	Water	RSK-175	
410-19941-4	MW-126-W-201106	Total/NA	Water	RSK-175	
410-19941-6	MW-517-W-201106	Total/NA	Water	RSK-175	
410-19941-7	MW-521-W-201106	Total/NA	Water	RSK-175	
MB 410-64146/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-64146/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 64182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-2	MW-20R-W-201106	Total/NA	Water	RSK-175	64146
410-19941-4	MW-126-W-201106	Total/NA	Water	RSK-175	64146
410-19941-6	MW-517-W-201106	Total/NA	Water	RSK-175	64146
410-19941-7	MW-521-W-201106	Total/NA	Water	RSK-175	64146
MB 410-64146/1-A	Method Blank	Total/NA	Water	RSK-175	64146
LCS 410-64146/2-A	Lab Control Sample	Total/NA	Water	RSK-175	64146

Prep Batch: 64663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	RSK-175	
410-19941-3	MW-101-W-201106	Total/NA	Water	RSK-175	
410-19941-5	MW-143-W-201106	Total/NA	Water	RSK-175	
MB 410-64663/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-64663/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	RSK-175	
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	RSK-175	

Prep Batch: 64669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-8	MW-522-W-201106	Total/NA	Water	RSK-175	
MB 410-64669/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-64669/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-64669/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 64675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-8	MW-522-W-201106	Total/NA	Water	RSK-175	64669
MB 410-64669/1-A	Method Blank	Total/NA	Water	RSK-175	64669
LCS 410-64669/2-A	Lab Control Sample	Total/NA	Water	RSK-175	64669
LCSD 410-64669/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	64669

Analysis Batch: 64679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	RSK-175	64663
410-19941-3	MW-101-W-201106	Total/NA	Water	RSK-175	64663
410-19941-5	MW-143-W-201106	Total/NA	Water	RSK-175	64663
MB 410-64663/1-A	Method Blank	Total/NA	Water	RSK-175	64663
LCS 410-64663/2-A	Lab Control Sample	Total/NA	Water	RSK-175	64663
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	RSK-175	64663
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	RSK-175	64663

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

GC VOA

Analysis Batch: 64719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-2	MW-20R-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-3	MW-101-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-4	MW-126-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-5	MW-143-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-6	MW-517-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-7	MW-521-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-8	MW-522-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-9	QA-T-201106	Total/NA	Water	NWTPH-Gx	
MB 410-64719/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-64719/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 410-64719/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	NWTPH-Gx	
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 65594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	3510C	
410-19941-2	MW-20R-W-201106	Total/NA	Water	3510C	
410-19941-3	MW-101-W-201106	Total/NA	Water	3510C	
410-19941-4	MW-126-W-201106	Total/NA	Water	3510C	
410-19941-5	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-6	MW-517-W-201106	Total/NA	Water	3510C	
410-19941-7	MW-521-W-201106	Total/NA	Water	3510C	
410-19941-8	MW-522-W-201106	Total/NA	Water	3510C	
MB 410-65594/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-65594/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-1 DU	MW-8R-W-201106	Total/NA	Water	3510C	

Cleanup Batch: 66766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	3630C	65594
410-19941-2	MW-20R-W-201106	Total/NA	Water	3630C	65594
410-19941-3	MW-101-W-201106	Total/NA	Water	3630C	65594
410-19941-4	MW-126-W-201106	Total/NA	Water	3630C	65594
410-19941-5	MW-143-W-201106	Total/NA	Water	3630C	65594
410-19941-6	MW-517-W-201106	Total/NA	Water	3630C	65594
410-19941-7	MW-521-W-201106	Total/NA	Water	3630C	65594
410-19941-8	MW-522-W-201106	Total/NA	Water	3630C	65594
MB 410-65594/1-B	Method Blank	Total/NA	Water	3630C	65594
LCS 410-65594/2-B	Lab Control Sample	Total/NA	Water	3630C	65594
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	3630C	65594
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	3630C	65594
410-19941-1 DU	MW-8R-W-201106	Total/NA	Water	3630C	65594

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

GC Semi VOA

Analysis Batch: 67201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-2	MW-20R-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-3	MW-101-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-4	MW-126-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-5	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-6	MW-517-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-7	MW-521-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-8	MW-522-W-201106	Total/NA	Water	NWTPH-Dx	66766
MB 410-65594/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	66766
LCS 410-65594/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	66766
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-5 MSD	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	66766
410-19941-1 DU	MW-8R-W-201106	Total/NA	Water	NWTPH-Dx	66766

Prep Batch: 68865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-5 - RE	MW-143-W-201106	Total/NA	Water	3510C	
MB 410-68865/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-19941-5 MS - RE	MW-143-W-201106	Total/NA	Water	3510C	
410-19941-5 MSD - RE	MW-143-W-201106	Total/NA	Water	3510C	

Cleanup Batch: 70750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-5 - RE	MW-143-W-201106	Total/NA	Water	3630C	68865
MB 410-68865/1-B	Method Blank	Total/NA	Water	3630C	68865
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	3630C	68865
410-19941-5 MS - RE	MW-143-W-201106	Total/NA	Water	3630C	68865
410-19941-5 MSD - RE	MW-143-W-201106	Total/NA	Water	3630C	68865

Analysis Batch: 71017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-5 - RE	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	70750
MB 410-68865/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	70750
LCS 410-68865/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	70750
410-19941-5 MS - RE	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	70750
410-19941-5 MSD - RE	MW-143-W-201106	Total/NA	Water	NWTPH-Dx	70750

HPLC/IC

Analysis Batch: 63761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-2	MW-20R-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-3	MW-101-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-4	MW-126-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-5	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-6	MW-517-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63761/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63761/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

HPLC/IC (Continued)

Analysis Batch: 63761 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-5 DU	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 63762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-4	MW-126-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-5	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-63762/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-63762/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19941-5 MS	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-5 DU	MW-143-W-201106	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 64739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-7	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-8	MW-522-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-64739/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-64739/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19941-7 MS	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-7 DU	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 64740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-7	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-64740/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-64740/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19941-7 MS	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-7 DU	MW-521-W-201106	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 68932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-2	MW-20R-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-3	MW-101-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-68932/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-68932/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-19941-2 MS	MW-20R-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-2 DU	MW-20R-W-201106	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 70016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-6	MW-517-W-201106	Total/NA	Water	EPA 300.0 R2.1	
410-19941-8	MW-522-W-201106	Total/NA	Water	EPA 300.0 R2.1	
MB 410-70016/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-70016/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 63957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-2	MW-20R-W-201106	Dissolved	Water	Non-Digest Prep	

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Metals (Continued)

Prep Batch: 63957 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-3	MW-101-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-4	MW-126-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-5	MW-143-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-6	MW-517-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-7	MW-521-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-8	MW-522-W-201106	Dissolved	Water	Non-Digest Prep	
MB 410-63957/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-63957/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-19941-5 MS	MW-143-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-5 MSD	MW-143-W-201106	Dissolved	Water	Non-Digest Prep	
410-19941-5 DU	MW-143-W-201106	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 64823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19941-1	MW-8R-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-2	MW-20R-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-3	MW-101-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-4	MW-126-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-5	MW-143-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-6	MW-517-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-7	MW-521-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-8	MW-522-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
MB 410-63957/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	63957
LCS 410-63957/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	63957
410-19941-5 MS	MW-143-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-5 MSD	MW-143-W-201106	Dissolved	Water	200.8 Rev 5.4	63957
410-19941-5 DU	MW-143-W-201106	Dissolved	Water	200.8 Rev 5.4	63957

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-8R-W-201106

Lab Sample ID: 410-19941-1

Date Collected: 11/06/20 10:00

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 01:21	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 18:41	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 17:04	UMDJ	ELLE
Total/NA	Prep	RSK-175			64663	11/11/20 09:10	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64679	11/11/20 10:15	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 05:22	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 13:41	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63762	11/09/20 13:41	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:36	BMB	ELLE

Client Sample ID: MW-20R-W-201106

Lab Sample ID: 410-19941-2

Date Collected: 11/06/20 10:55

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 01:43	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 19:09	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 17:30	UMDJ	ELLE
Total/NA	Prep	RSK-175			64146	11/10/20 08:57	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 17:16	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 06:08	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 13:58	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		500	68932	11/21/20 13:00	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:44	BMB	ELLE

Client Sample ID: MW-101-W-201106

Lab Sample ID: 410-19941-3

Date Collected: 11/06/20 11:15

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 02:05	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 19:37	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 17:56	UMDJ	ELLE
Total/NA	Prep	RSK-175			64663	11/11/20 09:10	LXF2	ELLE
Total/NA	Analysis	RSK-175		20	64679	11/11/20 11:31	LXF2	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-101-W-201106

Lab Sample ID: 410-19941-3

Date Collected: 11/06/20 11:15

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 06:30	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 14:15	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	68932	11/21/20 13:51	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:38	BMB	ELLE

Client Sample ID: MW-126-W-201106

Lab Sample ID: 410-19941-4

Date Collected: 11/06/20 12:30

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 02:27	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 20:06	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 18:22	UMDJ	ELLE
Total/NA	Prep	RSK-175			64146	11/10/20 08:57	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 17:55	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 06:53	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 14:32	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63762	11/09/20 14:32	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:30	BMB	ELLE

Client Sample ID: MW-143-W-201106

Lab Sample ID: 410-19941-5

Date Collected: 11/06/20 10:30

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 02:49	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 20:34	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 15:47	UMDJ	ELLE
Total/NA	Prep	RSK-175			64663	11/11/20 09:10	LXF2	ELLE
Total/NA	Analysis	RSK-175		50	64679	11/11/20 12:10	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 07:16	KP5X	ELLE
Total/NA	Prep	3510C	RE		68865	11/21/20 02:35	UKQ8	ELLE
Total/NA	Cleanup	3630C	RE		70750	11/29/20 04:25	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	71017	12/01/20 00:44	IUSB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-143-W-201106

Lab Sample ID: 410-19941-5

Date Collected: 11/06/20 10:30

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 15:58	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63762	11/09/20 15:58	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:00	BMB	ELLE

Client Sample ID: MW-517-W-201106

Lab Sample ID: 410-19941-6

Date Collected: 11/06/20 10:10

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 03:54	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 21:59	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 18:47	UMDJ	ELLE
Total/NA	Prep	RSK-175			64146	11/10/20 08:57	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 19:30	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 08:24	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		50	70016	11/24/20 23:54	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	63761	11/09/20 16:15	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:26	BMB	ELLE

Client Sample ID: MW-521-W-201106

Lab Sample ID: 410-19941-7

Date Collected: 11/06/20 09:45

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 04:17	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 22:27	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 19:13	UMDJ	ELLE
Total/NA	Prep	RSK-175			64146	11/10/20 08:57	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64182	11/10/20 19:49	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 08:46	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	64739	11/11/20 12:45	W5UX	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	64740	11/11/20 12:45	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:28	BMB	ELLE

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Client Sample ID: MW-522-W-201106

Lab Sample ID: 410-19941-8

Date Collected: 11/06/20 11:10

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 04:38	UCB5	ELLE
Total/NA	Prep	3510C			65591	11/13/20 09:50	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	66276	11/16/20 22:55	LW6J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 20:04	UMDJ	ELLE
Total/NA	Prep	RSK-175			64669	11/11/20 09:15	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	64675	11/11/20 10:35	LXF2	ELLE
Total/NA	Prep	3510C			65594	11/13/20 09:50	R9CT	ELLE
Total/NA	Cleanup	3630C			66766	11/17/20 04:37	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	67201	11/18/20 09:09	KP5X	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		25	70016	11/25/20 00:11	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	64739	11/11/20 14:10	W5UX	ELLE
Dissolved	Prep	Non-Digest Prep			63957	11/09/20 19:25	UJLA	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	64823	11/11/20 14:32	BMB	ELLE

Client Sample ID: QA-T-201106

Lab Sample ID: 410-19941-9

Date Collected: 11/06/20 00:00

Matrix: Water

Date Received: 11/07/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	67227	11/18/20 00:14	UCB5	ELLE
Total/NA	Analysis	NWTPH-Gx		1	64719	11/11/20 14:56	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 300.0 R2.1		Water	Nitrogen, Nitrate
EPA 300.0 R2.1		Water	Sulfate
NWTPH-Dx	3510C	Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)
RSK-175	RSK-175	Water	Methane (1C)

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
NWTPH-Dx	Semi-Volatile Petroleum Products by NWTPH	NWTPH	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
200.8 Rev 5.4	Metals (ICP/MS)	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Edmonds Terminal

Job ID: 410-19941-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-19941-1	MW-8R-W-201106	Water	11/06/20 10:00	11/07/20 09:50	
410-19941-2	MW-20R-W-201106	Water	11/06/20 10:55	11/07/20 09:50	
410-19941-3	MW-101-W-201106	Water	11/06/20 11:15	11/07/20 09:50	
410-19941-4	MW-126-W-201106	Water	11/06/20 12:30	11/07/20 09:50	
410-19941-5	MW-143-W-201106	Water	11/06/20 10:30	11/07/20 09:50	
410-19941-6	MW-517-W-201106	Water	11/06/20 10:10	11/07/20 09:50	
410-19941-7	MW-521-W-201106	Water	11/06/20 09:45	11/07/20 09:50	
410-19941-8	MW-522-W-201106	Water	11/06/20 11:10	11/07/20 09:50	
410-19941-9	QA-T-201106	Water	11/06/20 00:00	11/07/20 09:50	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-19941-1

Login Number: 19941

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Colon Martinez, Jessenia C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



APPENDIX E

Discharge Monitoring Reports





Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 01/01/2020 - 01/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Dx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
1-W	1/1/20											
1-Th	1/2/20											
1-F	1/3/20											
1-Sa	1/4/20	<5*	8.99	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Su	1/5/20											
2-M	1/6/20											
2-T	1/7/20											
2-W	1/8/20											
2-Th	1/9/20											
2-F	1/10/20	<5*	8.98	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Sa	1/11/20											
3-Su	1/12/20											
3-M	1/13/20											
3-T	1/14/20											
3-W	1/15/20											
3-Th	1/16/20											
3-F	1/17/20	<5*	8.96	<1	<250	<110	<0.009	<0.014	<0.011	<0.012	<0.16	<0.011
3-Sa	1/18/20											
4-Su	1/19/20											
4-M	1/20/20											
4-T	1/21/20											
4-W	1/22/20											
4-Th	1/23/20	<5*	8.91	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
4-F	1/24/20											
4-Sa	1/25/20											
5-Su	1/26/20											
5-M	1/27/20											
5-T	1/28/20											
5-W	1/29/20											
5-Th	1/30/20	<5*	7.50	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
5-F	1/31/20											
Daily Minimum			7.50 >= 6.0 (RO)									
Daily Maximum		<5* = 100 (RO)	8.99 = 9.0 (RO)	<1 = 16 (RO)	<250 = 800 (RO)	<120 = 500 (RO)	<0.01 = 0.05 (RO)	<0.015 Report Only	<0.012 Report Only	<0.013 Report Only	<0.16 Report Only	<0.012 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	1/1/20		
1-Th	1/2/20		
1-F	1/3/20		
1-Sa	1/4/20	<0.028	<0.015
2-Su	1/5/20		
2-M	1/6/20		
2-T	1/7/20		
2-W	1/8/20		
2-Th	1/9/20		
2-F	1/10/20	<0.028	<0.015
2-Sa	1/11/20		
3-Su	1/12/20		
3-M	1/13/20		
3-T	1/14/20		
3-W	1/15/20		
3-Th	1/16/20		
3-F	1/17/20	<0.026	<0.014
3-Sa	1/18/20		
4-Su	1/19/20		
4-M	1/20/20		
4-T	1/21/20		
4-W	1/22/20		
4-Th	1/23/20	<0.028	<0.015
4-F	1/24/20		
4-Sa	1/25/20		
5-Su	1/26/20		
5-M	1/27/20		
5-T	1/28/20		
5-W	1/29/20		
5-Th	1/30/20	<0.028	<0.015
5-F	1/31/20		
Daily Minimum			
Daily Maximum		<0.028	<0.015
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	Daily Maximum	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/4/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/10/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/17/2020	B <5	No continuous discharge from the system occurred during this period. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/23/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/30/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.

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

Garrick Jauregui

Signature

2/26/2020 8:58:55 AM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 02/01/2020 - 02/29/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
1-Sa	2/1/20											
2-Su	2/2/20											
2-M	2/3/20											
2-T	2/4/20											
2-W	2/5/20											
2-Th	2/6/20	83.8	8.84	<0.53	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-F	2/7/20											
2-Sa	2/8/20											
3-Su	2/9/20											
3-M	2/10/20											
3-T	2/11/20											
3-W	2/12/20											
3-Th	2/13/20	68.2	8.96	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-F	2/14/20											
3-Sa	2/15/20											
4-Su	2/16/20											
4-M	2/17/20	69.6	8.86	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.014
4-T	2/18/20											
4-W	2/19/20											
4-Th	2/20/20											
4-F	2/21/20											
4-Sa	2/22/20											
5-Su	2/23/20											
5-M	2/24/20											
5-T	2/25/20											
5-W	2/26/20											
5-Th	2/27/20											
5-F	2/28/20	34.2	8.98	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
5-Sa	2/29/20											
Daily Minimum			8.84									
			>= 6.0 (RO)									
Daily Maximum		83.8	8.98	<0.53	<100	<69	<0.01	<0.015	<0.012	<0.013	<0.017	<0.014
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Sa	2/1/20		
2-Su	2/2/20		
2-M	2/3/20		
2-T	2/4/20		
2-W	2/5/20		
2-Th	2/6/20	<0.027	<0.014
2-F	2/7/20		
2-Sa	2/8/20		
3-Su	2/9/20		
3-M	2/10/20		
3-T	2/11/20		
3-W	2/12/20		
3-Th	2/13/20	<0.027	<0.014
3-F	2/14/20		
3-Sa	2/15/20		
4-Su	2/16/20		
4-M	2/17/20	<0.026	<0.014
4-T	2/18/20		
4-W	2/19/20		
4-Th	2/20/20		
4-F	2/21/20		
4-Sa	2/22/20		
5-Su	2/23/20		
5-M	2/24/20		
5-T	2/25/20		
5-W	2/26/20		
5-Th	2/27/20		
5-F	2/28/20	<0.027	<0.015
5-Sa	2/29/20		
Daily Minimum			
Daily Maximum		<0.027	<0.015
		Report Only	Report Only



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

Garrick Jauregui

3/27/2020 11:18:16 AM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 03/01/2020 - 03/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Su	3/1/20											
1-M	3/2/20	59.8	8.85	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
1-T	3/3/20											
1-W	3/4/20											
1-Th	3/5/20											
1-F	3/6/20											
1-Sa	3/7/20											
2-Su	3/8/20											
2-M	3/9/20											
2-T	3/10/20											
2-W	3/11/20	<97*	8.50	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Th	3/12/20											
2-F	3/13/20											
2-Sa	3/14/20											
3-Su	3/15/20											
3-M	3/16/20	68.5	8.66	<0.53	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-T	3/17/20											
3-W	3/18/20											
3-Th	3/19/20											
3-F	3/20/20											
3-Sa	3/21/20											
4-Su	3/22/20											
4-M	3/23/20											
4-T	3/24/20											
4-W	3/25/20	<97*	8.62	<0.53	<100	<66	<0.010	<0.015	<0.011	<0.012	<0.017	<0.011
4-Th	3/26/20											
4-F	3/27/20											
4-Sa	3/28/20											
5-Su	3/29/20											
5-M	3/30/20	90	8.94	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-T	3/31/20											
Daily Minimum			8.50									
			>= 6.0 (RO)									
Daily Maximum		90	8.94	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Su	3/1/20		
1-M	3/2/20	<0.028	<0.015
1-T	3/3/20		
1-W	3/4/20		
1-Th	3/5/20		
1-F	3/6/20		
1-Sa	3/7/20		
2-Su	3/8/20		
2-M	3/9/20		
2-T	3/10/20		
2-W	3/11/20	<0.028	<0.015
2-Th	3/12/20		
2-F	3/13/20		
2-Sa	3/14/20		
3-Su	3/15/20		
3-M	3/16/20	<0.026	<0.014
3-T	3/17/20		
3-W	3/18/20		
3-Th	3/19/20		
3-F	3/20/20		
3-Sa	3/21/20		
4-Su	3/22/20		
4-M	3/23/20		
4-T	3/24/20		
4-W	3/25/20	<0.027	<0.015
4-Th	3/26/20		
4-F	3/27/20		
4-Sa	3/28/20		
5-Su	3/29/20		
5-M	3/30/20	<0.025	<0.014
5-T	3/31/20		
Daily Minimum			
Daily Maximum		<0.028	<0.015
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	3/11/2020	B <97	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Instantaneous rate was less than 97 gallons per minute during forced discharge.
DPE	Flow Gallons/minute (gpm)	3/25/2020	B <97	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Instantaneous rate was measured to be 96 gallons per minute during forced discharge.

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

Garrick Jauregui

4/23/2020 5:12:26 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 04/01/2020 - 04/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-W	4/1/20											
1-Th	4/2/20											
1-F	4/3/20											
1-Sa	4/4/20											
2-Su	4/5/20											
2-M	4/6/20	60	7.93	<0.24	<100	<79	J 0.023	<0.015	J 0.013	J 0.013	<0.017	J 0.016
2-T	4/7/20											
2-W	4/8/20											
2-Th	4/9/20											
2-F	4/10/20											
2-Sa	4/11/20											
3-Su	4/12/20											
3-M	4/13/20	70	7.96	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.015	<0.011
3-T	4/14/20											
3-W	4/15/20											
3-Th	4/16/20											
3-F	4/17/20											
3-Sa	4/18/20											
4-Su	4/19/20											
4-M	4/20/20	62.5	8.38	<0.24	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
4-T	4/21/20											
4-W	4/22/20											
4-Th	4/23/20											
4-F	4/24/20											
4-Sa	4/25/20											
5-Su	4/26/20											
5-M	4/27/20	64	8.50	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
5-T	4/28/20											
5-W	4/29/20											
5-Th	4/30/20											
Daily Minimum			7.93 ≥ 6.0 (RO)									
Daily Maximum		70 ≤ 100 (RO)	8.5 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	<79 ≤ 500 (RO)	J 0.023 ≤ 0.05 (RO)	<0.015 Report Only	J 0.013 Report Only	J 0.013 Report Only	<0.017 Report Only	J 0.016 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	4/1/20		
1-Th	4/2/20		
1-F	4/3/20		
1-Sa	4/4/20		
2-Su	4/5/20		
2-M	4/6/20	<0.028	J 0.021
2-T	4/7/20		
2-W	4/8/20		
2-Th	4/9/20		
2-F	4/10/20		
2-Sa	4/11/20		
3-Su	4/12/20		
3-M	4/13/20	<0.025	<0.014
3-T	4/14/20		
3-W	4/15/20		
3-Th	4/16/20		
3-F	4/17/20		
3-Sa	4/18/20		
4-Su	4/19/20		
4-M	4/20/20	<0.027	<0.015
4-T	4/21/20		
4-W	4/22/20		
4-Th	4/23/20		
4-F	4/24/20		
4-Sa	4/25/20		
5-Su	4/26/20		
5-M	4/27/20	<0.027	<0.014
5-T	4/28/20		
5-W	4/29/20		
5-Th	4/30/20		
Daily Minimum			
Daily Maximum		<0.028 Report Only	J 0.021 Report Only



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Garrick Jauregui

5/27/2020 12:27:00 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 05/01/2020 - 05/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-F	5/1/20											
1-Sa	5/2/20											
2-Su	5/3/20	60	8.27	<0.24	<100	<72	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-M	5/4/20											
2-T	5/5/20											
2-W	5/6/20											
2-Th	5/7/20											
2-F	5/8/20											
2-Sa	5/9/20											
3-Su	5/10/20											
3-M	5/11/20	76	8.76	<0.24	<100	<71	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-T	5/12/20											
3-W	5/13/20											
3-Th	5/14/20											
3-F	5/15/20											
3-Sa	5/16/20											
4-Su	5/17/20											
4-M	5/18/20											
4-T	5/19/20	65	8.74	<0.24	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-W	5/20/20											
4-Th	5/21/20											
4-F	5/22/20											
4-Sa	5/23/20											
5-Su	5/24/20											
5-M	5/25/20											
5-T	5/26/20	58	8.72	<0.24	<100	200	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-W	5/27/20											
5-Th	5/28/20											
5-F	5/29/20											
5-Sa	5/30/20											
6-Su	5/31/20											
Daily Minimum			8.27									
			>= 6.0 (RO)									
Daily Maximum		76	8.76	B 0.24	B 100	200	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-F	5/1/20		
1-Sa	5/2/20		
2-Su	5/3/20	<0.027	<0.014
2-M	5/4/20		
2-T	5/5/20		
2-W	5/6/20		
2-Th	5/7/20		
2-F	5/8/20		
2-Sa	5/9/20		
3-Su	5/10/20		
3-M	5/11/20	<0.026	<0.014
3-T	5/12/20		
3-W	5/13/20		
3-Th	5/14/20		
3-F	5/15/20		
3-Sa	5/16/20		
4-Su	5/17/20		
4-M	5/18/20		
4-T	5/19/20	<0.026	<0.014
4-W	5/20/20		
4-Th	5/21/20		
4-F	5/22/20		
4-Sa	5/23/20		
5-Su	5/24/20		
5-M	5/25/20		
5-T	5/26/20	<0.026	<0.014
5-W	5/27/20		
5-Th	5/28/20		
5-F	5/29/20		
5-Sa	5/30/20		
6-Su	5/31/20		
Daily Minimum			
Daily Maximum		B 0.027 Report Only	B 0.014 Report Only



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

Garrick Jauregui

6/26/2020 3:59:15 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 06/01/2020 - 06/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-M	6/1/20	41	8.64	B 0.24	B 100	B 70	B 0.010	B 0.016	B 0.012	B 0.013	B 0.018	B 0.012
1-T	6/2/20											
1-W	6/3/20											
1-Th	6/4/20											
1-F	6/5/20											
1-Sa	6/6/20											
2-Su	6/7/20											
2-M	6/8/20	57	8.88	B 0.24	B 100	B 71	B 0.010	B 0.015	B 0.012	B 0.013	B 0.017	B 0.012
2-T	6/9/20											
2-W	6/10/20											
2-Th	6/11/20											
2-F	6/12/20											
2-Sa	6/13/20											
3-Su	6/14/20											
3-M	6/15/20	48	8.71	B 0.24	B 100	B 65	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
3-T	6/16/20											
3-W	6/17/20											
3-Th	6/18/20											
3-F	6/19/20											
3-Sa	6/20/20											
4-Su	6/21/20											
4-M	6/22/20	55	8.77	B 0.24	B 100	J 76	B 0.010	B 0.015	B 0.012	B 0.013	B 0.017	B 0.012
4-T	6/23/20											
4-W	6/24/20											
4-Th	6/25/20											
4-F	6/26/20											
4-Sa	6/27/20											
5-Su	6/28/20											
5-M	6/29/20											
5-T	6/30/20	68	8.88	B 0.24	B 100	B 67	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
Daily Minimum			8.64 >= 6.0 (RO)									
Daily Maximum		68 =<= 100 (RO)	8.88 =<= 9.0 (RO)	B 0.24 =<= 16 (RO)	B 100 =<= 800 (RO)	J 76 =<= 500 (RO)	B 0.01 =<= 0.05 (RO)	B 0.016 Report Only	B 0.012 Report Only	B 0.013 Report Only	B 0.018 Report Only	B 0.012 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-M	6/1/20	B 0.029	B 0.016
1-T	6/2/20		
1-W	6/3/20		
1-Th	6/4/20		
1-F	6/5/20		
1-Sa	6/6/20		
2-Su	6/7/20		
2-M	6/8/20	B 0.027	B 0.015
2-T	6/9/20		
2-W	6/10/20		
2-Th	6/11/20		
2-F	6/12/20		
2-Sa	6/13/20		
3-Su	6/14/20		
3-M	6/15/20	B 0.027	B 0.014
3-T	6/16/20		
3-W	6/17/20		
3-Th	6/18/20		
3-F	6/19/20		
3-Sa	6/20/20		
4-Su	6/21/20		
4-M	6/22/20	B 0.016	B 0.015
4-T	6/23/20		
4-W	6/24/20		
4-Th	6/25/20		
4-F	6/26/20		
4-Sa	6/27/20		
5-Su	6/28/20		
5-M	6/29/20		
5-T	6/30/20	B 0.015	B 0.014
Daily Minimum			
Daily Maximum		B 0.029	B 0.016
		Report Only	Report Only



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

Garrick Jauregui

7/21/2020 3:05:57 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 07/01/2020 - 07/31/2020

Outfall: 002 - Willow Creek

Version: 2

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-W	7/1/20											
1-Th	7/2/20											
1-F	7/3/20											
1-Sa	7/4/20											
2-Su	7/5/20											
2-M	7/6/20	45	8.94	<0.24	<100	<73	<0.046	<0.073	<0.057	<0.062	<0.083	<0.057
2-T	7/7/20											
2-W	7/8/20											
2-Th	7/9/20											
2-F	7/10/20											
2-Sa	7/11/20											
3-Su	7/12/20											
3-M	7/13/20	C	C	C	C	C	C	C	C	C	C	C
3-T	7/14/20											
3-W	7/15/20											
3-Th	7/16/20											
3-F	7/17/20											
3-Sa	7/18/20											
4-Su	7/19/20											
4-M	7/20/20	C	C	C	C	C	C	C	C	C	C	C
4-T	7/21/20											
4-W	7/22/20											
4-Th	7/23/20											
4-F	7/24/20											
4-Sa	7/25/20											
5-Su	7/26/20											
5-M	7/27/20	C	C	C	C	C	C	C	C	C	C	C
5-T	7/28/20											
5-W	7/29/20											
5-Th	7/30/20											
5-F	7/31/20											
Daily Minimum			8.94									
			>= 6.0 (RO)									
Daily Maximum		45	8.94	<0.24	<100	<73	<0.046	<0.073	<0.057	<0.062	<0.083	<0.057
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, C - No Discharge



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	7/1/20		
1-Th	7/2/20		
1-F	7/3/20		
1-Sa	7/4/20		
2-Su	7/5/20		
2-M	7/6/20	<0.078	<0.073
2-T	7/7/20		
2-W	7/8/20		
2-Th	7/9/20		
2-F	7/10/20		
2-Sa	7/11/20		
3-Su	7/12/20		
3-M	7/13/20	C	C
3-T	7/14/20		
3-W	7/15/20		
3-Th	7/16/20		
3-F	7/17/20		
3-Sa	7/18/20		
4-Su	7/19/20		
4-M	7/20/20	C	C
4-T	7/21/20		
4-W	7/22/20		
4-Th	7/23/20		
4-F	7/24/20		
4-Sa	7/25/20		
5-Su	7/26/20		
5-M	7/27/20	C	C
5-T	7/28/20		
5-W	7/29/20		
5-Th	7/30/20		
5-F	7/31/20		
Daily Minimum			
Daily Maximum		<0.078 Report Only	<0.073 Report Only



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Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 08/01/2020 - 08/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Sa	8/1/20											
2-Su	8/2/20											
2-M	8/3/20											
2-T	8/4/20											
2-W	8/5/20											
2-Th	8/6/20											
2-F	8/7/20	C	C	C	C	C	C	C	C	C	C	C
2-Sa	8/8/20											
3-Su	8/9/20											
3-M	8/10/20											
3-T	8/11/20											
3-W	8/12/20											
3-Th	8/13/20											
3-F	8/14/20	64	8.30	<0.24	<100	<63	<0.010	<0.014	<0.011	<0.013	<0.017	<0.012
3-Sa	8/15/20											
4-Su	8/16/20											
4-M	8/17/20											
4-T	8/18/20											
4-W	8/19/20	1	7.84	<0.24	<100	<68	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
4-Th	8/20/20											
4-F	8/21/20											
4-Sa	8/22/20											
5-Su	8/23/20											
5-M	8/24/20											
5-T	8/25/20											
5-W	8/26/20	20	7.37	<0.24	<100	<73	<0.011	<0.017	<0.013	<0.014	<0.019	<0.013
5-Th	8/27/20											
5-F	8/28/20											
5-Sa	8/29/20											
6-Su	8/30/20											
6-M	8/31/20											
Daily Minimum			7.37									
			>= 6.0 (RO)									
Daily Maximum		64	8.3	<0.24	<100	<73	<0.011	<0.017	<0.013	<0.014	<0.019	<0.013
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, C - No Discharge



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Sa	8/1/20		
2-Su	8/2/20		
2-M	8/3/20		
2-T	8/4/20		
2-W	8/5/20		
2-Th	8/6/20		
2-F	8/7/20	C	C
2-Sa	8/8/20		
3-Su	8/9/20		
3-M	8/10/20		
3-T	8/11/20		
3-W	8/12/20		
3-Th	8/13/20		
3-F	8/14/20	<0.016	<0.015
3-Sa	8/15/20		
4-Su	8/16/20		
4-M	8/17/20		
4-T	8/18/20		
4-W	8/19/20	<0.016	<0.014
4-Th	8/20/20		
4-F	8/21/20		
4-Sa	8/22/20		
5-Su	8/23/20		
5-M	8/24/20		
5-T	8/25/20		
5-W	8/26/20	<0.018	<0.017
5-Th	8/27/20		
5-F	8/28/20		
5-Sa	8/29/20		
6-Su	8/30/20		
6-M	8/31/20		
Daily Minimum			
Daily Maximum		<0.018	<0.017
		Report Only	Report Only



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Garrick Jauregui

9/28/2020 1:35:46 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 09/01/2020 - 09/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzo(b)fluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzo(k)fluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzo(a)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-T	9/1/20											
1-W	9/2/20	50.4	7.73	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
1-Th	9/3/20											
1-F	9/4/20											
1-Sa	9/5/20											
2-Su	9/6/20											
2-M	9/7/20											
2-T	9/8/20											
2-W	9/9/20											
2-Th	9/10/20	<100*	8.03	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-F	9/11/20											
2-Sa	9/12/20											
3-Su	9/13/20											
3-M	9/14/20											
3-T	9/15/20											
3-W	9/16/20											
3-Th	9/17/20											
3-F	9/18/20	<100*	8.03	<0.24	<100	J 93	J 0.012	<0.017	J 0.013	<0.014	<0.019	<0.013
3-Sa	9/19/20											
4-Su	9/20/20											
4-M	9/21/20											
4-T	9/22/20											
4-W	9/23/20											
4-Th	9/24/20	<100*	6.90	<0.24	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-F	9/25/20											
4-Sa	9/26/20											
5-Su	9/27/20											
5-M	9/28/20											
5-T	9/29/20											
5-W	9/30/20	<100*	7.95	<0.24	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
Daily Minimum			6.90 ≥ 6.0 (RO)									
Daily Maximum		<100 ≤ 100 (RO)	8.03 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	J 93 ≤ 500 (RO)	J 0.012 ≤ 0.05 (RO)	<0.017 Report Only	J 0.013 Report Only	<0.014 Report Only	<0.019 Report Only	<0.013 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-T	9/1/20		
1-W	9/2/20	<0.015	<0.014
1-Th	9/3/20		
1-F	9/4/20		
1-Sa	9/5/20		
2-Su	9/6/20		
2-M	9/7/20		
2-T	9/8/20		
2-W	9/9/20		
2-Th	9/10/20	<0.015	<0.014
2-F	9/11/20		
2-Sa	9/12/20		
3-Su	9/13/20		
3-M	9/14/20		
3-T	9/15/20		
3-W	9/16/20		
3-Th	9/17/20		
3-F	9/18/20	<0.018	J 0.018
3-Sa	9/19/20		
4-Su	9/20/20		
4-M	9/21/20		
4-T	9/22/20		
4-W	9/23/20		
4-Th	9/24/20	<0.015	<0.014
4-F	9/25/20		
4-Sa	9/26/20		
5-Su	9/27/20		
5-M	9/28/20		
5-T	9/29/20		
5-W	9/30/20	<0.016	<0.014
Daily Minimum			
Daily Maximum		<0.018	J 0.018
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	9/10/2020	B <100	Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/18/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/24/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/30/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.

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Garrick Jauregui

Signature

10/23/2020 3:27:00 PM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 10/01/2020 - 10/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
1-Th	10/1/20											
1-F	10/2/20											
1-Sa	10/3/20											
2-Su	10/4/20											
2-M	10/5/20	<100*	7.68	<0.24	<100	<69	<0.009	<0.015	<0.012	<0.013	<0.017	<0.012
2-T	10/6/20											
2-W	10/7/20											
2-Th	10/8/20											
2-F	10/9/20											
2-Sa	10/10/20											
3-Su	10/11/20											
3-M	10/12/20											
3-T	10/13/20											
3-W	10/14/20											
3-Th	10/15/20											
3-F	10/16/20	<100*	7.93	<0.24	<100	<69	<0.010	<0.016	<0.012	<0.013	<0.018	<0.012
3-Sa	10/17/20											
4-Su	10/18/20											
4-M	10/19/20											
4-T	10/20/20											
4-W	10/21/20	<100*	7.73	<0.24	<100	<69	J 0.017	J 0.037	J 0.021	J 0.019	J 0.033	<0.014
4-Th	10/22/20											
4-F	10/23/20											
4-Sa	10/24/20											
5-Su	10/25/20											
5-M	10/26/20											
5-T	10/27/20	90*	7.97	<0.24	<100	<73	<0.010	<0.015	<0.012	<0.013	<0.017	<0.015
5-W	10/28/20											
5-Th	10/29/20											
5-F	10/30/20											
5-Sa	10/31/20											
Daily Minimum			7.68									
			>= 6.0 (RO)									
Daily Maximum		90	7.97	<0.24	<100	<73	J 0.017	J 0.037	J 0.021	J 0.019	J 0.033	<0.015
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Th	10/1/20		
1-F	10/2/20		
1-Sa	10/3/20		
2-Su	10/4/20		
2-M	10/5/20	<0.016	<0.015
2-T	10/6/20		
2-W	10/7/20		
2-Th	10/8/20		
2-F	10/9/20		
2-Sa	10/10/20		
3-Su	10/11/20		
3-M	10/12/20		
3-T	10/13/20		
3-W	10/14/20		
3-Th	10/15/20		
3-F	10/16/20	<0.017	<0.016
3-Sa	10/17/20		
4-Su	10/18/20		
4-M	10/19/20		
4-T	10/20/20		
4-W	10/21/20	<0.019	<0.017
4-Th	10/22/20		
4-F	10/23/20		
4-Sa	10/24/20		
5-Su	10/25/20		
5-M	10/26/20		
5-T	10/27/20	<0.016	<0.015
5-W	10/28/20		
5-Th	10/29/20		
5-F	10/30/20		
5-Sa	10/31/20		
Daily Minimum			
Daily Maximum		<0.019	<0.017
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	10/5/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>
DPE	Flow Gallons/minute (gpm)	10/16/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>
DPE	Flow Gallons/minute (gpm)	10/21/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>



DPE	Flow	10/27/2020	90	No discharge from remediation system during this period.
	Gallons/minute (gpm)			

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

Garrick Jauregui

Signature

11/30/2020 9:58:20 AM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 11/01/2020 - 11/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Su	11/1/20											
1-M	11/2/20	90	7.43	<0.24	<100	<68	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
1-T	11/3/20											
1-W	11/4/20											
1-Th	11/5/20											
1-F	11/6/20											
1-Sa	11/7/20											
2-Su	11/8/20											
2-M	11/9/20											
2-T	11/10/20	92	7.13	<0.24	<100	<69	<0.010	<0.016	<0.013	<0.014	<0.019	<0.013
2-W	11/11/20											
2-Th	11/12/20											
2-F	11/13/20											
2-Sa	11/14/20											
3-Su	11/15/20											
3-M	11/16/20											
3-T	11/17/20											
3-W	11/18/20											
3-Th	11/19/20											
3-F	11/20/20	90	7.88	<0.24	<100	<68	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-Sa	11/21/20											
4-Su	11/22/20											
4-M	11/23/20	92	8.01	<0.24	<100	<63	J 0.012	J 0.034	<0.011	<0.012	J 0.05	<0.011
4-T	11/24/20											
4-W	11/25/20											
4-Th	11/26/20											
4-F	11/27/20											
4-Sa	11/28/20											
5-Su	11/29/20											
5-M	11/30/20											
Daily Minimum			7.13 ≥ 6.0 (RO)									
Daily Maximum		92 ≤ 100 (RO)	8.01 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	<69 ≤ 500 (RO)	J 0.012 ≤ 0.05 (RO)	J 0.034 Report Only	<0.013 Report Only	<0.014 Report Only	J 0.05 Report Only	<0.013 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Su	11/1/20		
1-M	11/2/20	<0.016	<0.015
1-T	11/3/20		
1-W	11/4/20		
1-Th	11/5/20		
1-F	11/6/20		
1-Sa	11/7/20		
2-Su	11/8/20		
2-M	11/9/20		
2-T	11/10/20	<0.017	<0.016
2-W	11/11/20		
2-Th	11/12/20		
2-F	11/13/20		
2-Sa	11/14/20		
3-Su	11/15/20		
3-M	11/16/20		
3-T	11/17/20		
3-W	11/18/20		
3-Th	11/19/20		
3-F	11/20/20	<0.015	<0.014
3-Sa	11/21/20		
4-Su	11/22/20		
4-M	11/23/20	<0.015	<0.014
4-T	11/24/20		
4-W	11/25/20		
4-Th	11/26/20		
4-F	11/27/20		
4-Sa	11/28/20		
5-Su	11/29/20		
5-M	11/30/20		
Daily Minimum			
Daily Maximum		<0.017 Report Only	<0.016 Report Only



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

Owen Ranta

12/18/2020 11:11:30 AM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 12/01/2020 - 12/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	
1-T	12/1/20	90	8.33	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
1-W	12/2/20											
1-Th	12/3/20											
1-F	12/4/20											
1-Sa	12/5/20											
2-Su	12/6/20											
2-M	12/7/20											
2-T	12/8/20											
2-W	12/9/20											
2-Th	12/10/20	80	8.12	<0.24	<100	<72	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-F	12/11/20											
2-Sa	12/12/20											
3-Su	12/13/20											
3-M	12/14/20											
3-T	12/15/20											
3-W	12/16/20	88	8.20	<0.24	<100	<70	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
3-Th	12/17/20											
3-F	12/18/20											
3-Sa	12/19/20											
4-Su	12/20/20											
4-M	12/21/20	45	8.44	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-T	12/22/20											
4-W	12/23/20											
4-Th	12/24/20											
4-F	12/25/20											
4-Sa	12/26/20											
5-Su	12/27/20											
5-M	12/28/20											
5-T	12/29/20											
5-W	12/30/20	66	6.78	<0.24	<100	<73	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-Th	12/31/20											
Daily Minimum			6.78									
			>= 6.0 (RO)									
Daily Maximum		90	8.44	<0.24	<100	<73	<0.01	<0.015	<0.012	<0.013	<0.017	<0.012
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-T	12/1/20	<0.015	<0.014
1-W	12/2/20		
1-Th	12/3/20		
1-F	12/4/20		
1-Sa	12/5/20		
2-Su	12/6/20		
2-M	12/7/20		
2-T	12/8/20		
2-W	12/9/20		
2-Th	12/10/20	<0.016	<0.015
2-F	12/11/20		
2-Sa	12/12/20		
3-Su	12/13/20		
3-M	12/14/20		
3-T	12/15/20		
3-W	12/16/20	<0.016	<0.015
3-Th	12/17/20		
3-F	12/18/20		
3-Sa	12/19/20		
4-Su	12/20/20		
4-M	12/21/20	<0.015	<0.014
4-T	12/22/20		
4-W	12/23/20		
4-Th	12/24/20		
4-F	12/25/20		
4-Sa	12/26/20		
5-Su	12/27/20		
5-M	12/28/20		
5-T	12/29/20		
5-W	12/30/20	<0.015	<0.014
5-Th	12/31/20		
Daily Minimum			
Daily Maximum		<0.016	<0.015
		Report Only	Report Only



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

James Kiernan

1/19/2021 2:16:38 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 01/01/2020 - 01/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab
1-W	1/1/20											
1-Th	1/2/20											
1-F	1/3/20											
1-Sa	1/4/20	<5*	8.99	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Su	1/5/20											
2-M	1/6/20											
2-T	1/7/20											
2-W	1/8/20											
2-Th	1/9/20											
2-F	1/10/20	<5*	8.98	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Sa	1/11/20											
3-Su	1/12/20											
3-M	1/13/20											
3-T	1/14/20											
3-W	1/15/20											
3-Th	1/16/20											
3-F	1/17/20	<5*	8.96	<1	<250	<110	<0.009	<0.014	<0.011	<0.012	<0.16	<0.011
3-Sa	1/18/20											
4-Su	1/19/20											
4-M	1/20/20											
4-T	1/21/20											
4-W	1/22/20											
4-Th	1/23/20	<5*	8.91	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
4-F	1/24/20											
4-Sa	1/25/20											
5-Su	1/26/20											
5-M	1/27/20											
5-T	1/28/20											
5-W	1/29/20											
5-Th	1/30/20	<5*	7.50	<1	<250	<120	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
5-F	1/31/20											
Daily Minimum			7.50 ≥ 6.0 (RO)									
Daily Maximum		<5* ≤ 100 (RO)	8.99 ≤ 9.0 (RO)	<1 ≤ 16 (RO)	<250 ≤ 800 (RO)	<120 ≤ 500 (RO)	<0.01 ≤ 0.05 (RO)	<0.015 Report Only	<0.012 Report Only	<0.013 Report Only	<0.16 Report Only	<0.012 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	1/1/20		
1-Th	1/2/20		
1-F	1/3/20		
1-Sa	1/4/20	<0.028	<0.015
2-Su	1/5/20		
2-M	1/6/20		
2-T	1/7/20		
2-W	1/8/20		
2-Th	1/9/20		
2-F	1/10/20	<0.028	<0.015
2-Sa	1/11/20		
3-Su	1/12/20		
3-M	1/13/20		
3-T	1/14/20		
3-W	1/15/20		
3-Th	1/16/20		
3-F	1/17/20	<0.026	<0.014
3-Sa	1/18/20		
4-Su	1/19/20		
4-M	1/20/20		
4-T	1/21/20		
4-W	1/22/20		
4-Th	1/23/20	<0.028	<0.015
4-F	1/24/20		
4-Sa	1/25/20		
5-Su	1/26/20		
5-M	1/27/20		
5-T	1/28/20		
5-W	1/29/20		
5-Th	1/30/20	<0.028	<0.015
5-F	1/31/20		
Daily Minimum			
Daily Maximum		<0.028	<0.015
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	Daily Maximum	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/4/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/10/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/17/2020	B <5	No continuous discharge from the system occurred during this period. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/23/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.
DPE	Flow Gallons/minute (gpm)	1/30/2020	B <5	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Discharge rate was less than 5 gallons per minute.

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

Garrick Jauregui

Signature

2/26/2020 8:58:55 AM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 02/01/2020 - 02/29/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Sa	2/1/20											
2-Su	2/2/20											
2-M	2/3/20											
2-T	2/4/20											
2-W	2/5/20											
2-Th	2/6/20	83.8	8.84	<0.53	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-F	2/7/20											
2-Sa	2/8/20											
3-Su	2/9/20											
3-M	2/10/20											
3-T	2/11/20											
3-W	2/12/20											
3-Th	2/13/20	68.2	8.96	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-F	2/14/20											
3-Sa	2/15/20											
4-Su	2/16/20											
4-M	2/17/20	69.6	8.86	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.014
4-T	2/18/20											
4-W	2/19/20											
4-Th	2/20/20											
4-F	2/21/20											
4-Sa	2/22/20											
5-Su	2/23/20											
5-M	2/24/20											
5-T	2/25/20											
5-W	2/26/20											
5-Th	2/27/20											
5-F	2/28/20	34.2	8.98	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
5-Sa	2/29/20											
Daily Minimum			8.84									
			>= 6.0 (RO)									
Daily Maximum		83.8	8.98	<0.53	<100	<69	<0.01	<0.015	<0.012	<0.013	<0.017	<0.014
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Sa	2/1/20		
2-Su	2/2/20		
2-M	2/3/20		
2-T	2/4/20		
2-W	2/5/20		
2-Th	2/6/20	<0.027	<0.014
2-F	2/7/20		
2-Sa	2/8/20		
3-Su	2/9/20		
3-M	2/10/20		
3-T	2/11/20		
3-W	2/12/20		
3-Th	2/13/20	<0.027	<0.014
3-F	2/14/20		
3-Sa	2/15/20		
4-Su	2/16/20		
4-M	2/17/20	<0.026	<0.014
4-T	2/18/20		
4-W	2/19/20		
4-Th	2/20/20		
4-F	2/21/20		
4-Sa	2/22/20		
5-Su	2/23/20		
5-M	2/24/20		
5-T	2/25/20		
5-W	2/26/20		
5-Th	2/27/20		
5-F	2/28/20	<0.027	<0.015
5-Sa	2/29/20		
Daily Minimum			
Daily Maximum		<0.027	<0.015
		Report Only	Report Only



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

Garrick Jauregui

3/27/2020 11:18:16 AM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 03/01/2020 - 03/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Su	3/1/20											
1-M	3/2/20	59.8	8.85	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
1-T	3/3/20											
1-W	3/4/20											
1-Th	3/5/20											
1-F	3/6/20											
1-Sa	3/7/20											
2-Su	3/8/20											
2-M	3/9/20											
2-T	3/10/20											
2-W	3/11/20	<97*	8.50	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-Th	3/12/20											
2-F	3/13/20											
2-Sa	3/14/20											
3-Su	3/15/20											
3-M	3/16/20	68.5	8.66	<0.53	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-T	3/17/20											
3-W	3/18/20											
3-Th	3/19/20											
3-F	3/20/20											
3-Sa	3/21/20											
4-Su	3/22/20											
4-M	3/23/20											
4-T	3/24/20											
4-W	3/25/20	<97*	8.62	<0.53	<100	<66	<0.010	<0.015	<0.011	<0.012	<0.017	<0.011
4-Th	3/26/20											
4-F	3/27/20											
4-Sa	3/28/20											
5-Su	3/29/20											
5-M	3/30/20	90	8.94	<0.53	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-T	3/31/20											
Daily Minimum			8.50									
			>= 6.0 (RO)									
Daily Maximum		90	8.94	<0.53	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Su	3/1/20		
1-M	3/2/20	<0.028	<0.015
1-T	3/3/20		
1-W	3/4/20		
1-Th	3/5/20		
1-F	3/6/20		
1-Sa	3/7/20		
2-Su	3/8/20		
2-M	3/9/20		
2-T	3/10/20		
2-W	3/11/20	<0.028	<0.015
2-Th	3/12/20		
2-F	3/13/20		
2-Sa	3/14/20		
3-Su	3/15/20		
3-M	3/16/20	<0.026	<0.014
3-T	3/17/20		
3-W	3/18/20		
3-Th	3/19/20		
3-F	3/20/20		
3-Sa	3/21/20		
4-Su	3/22/20		
4-M	3/23/20		
4-T	3/24/20		
4-W	3/25/20	<0.027	<0.015
4-Th	3/26/20		
4-F	3/27/20		
4-Sa	3/28/20		
5-Su	3/29/20		
5-M	3/30/20	<0.025	<0.014
5-T	3/31/20		
Daily Minimum			
Daily Maximum		<0.028	<0.015
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	3/11/2020	B <97	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Instantaneous rate was less than 97 gallons per minute during forced discharge.
DPE	Flow Gallons/minute (gpm)	3/25/2020	B <97	No continuous discharge from the system occurred during this period. Forced discharge conducted temporarily to collect sample. Instantaneous rate was measured to be 96 gallons per minute during forced discharge.

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Garrick Jauregui

4/23/2020 5:12:26 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 04/01/2020 - 04/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-W	4/1/20											
1-Th	4/2/20											
1-F	4/3/20											
1-Sa	4/4/20											
2-Su	4/5/20											
2-M	4/6/20	60	7.93	<0.24	<100	<79	J 0.023	<0.015	J 0.013	J 0.013	<0.017	J 0.016
2-T	4/7/20											
2-W	4/8/20											
2-Th	4/9/20											
2-F	4/10/20											
2-Sa	4/11/20											
3-Su	4/12/20											
3-M	4/13/20	70	7.96	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.015	<0.011
3-T	4/14/20											
3-W	4/15/20											
3-Th	4/16/20											
3-F	4/17/20											
3-Sa	4/18/20											
4-Su	4/19/20											
4-M	4/20/20	62.5	8.38	<0.24	<100	<69	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
4-T	4/21/20											
4-W	4/22/20											
4-Th	4/23/20											
4-F	4/24/20											
4-Sa	4/25/20											
5-Su	4/26/20											
5-M	4/27/20	64	8.50	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
5-T	4/28/20											
5-W	4/29/20											
5-Th	4/30/20											
Daily Minimum			7.93 ≥ 6.0 (RO)									
Daily Maximum		70 ≤ 100 (RO)	8.5 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	<79 ≤ 500 (RO)	J 0.023 ≤ 0.05 (RO)	<0.015 Report Only	J 0.013 Report Only	J 0.013 Report Only	<0.017 Report Only	J 0.016 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	4/1/20		
1-Th	4/2/20		
1-F	4/3/20		
1-Sa	4/4/20		
2-Su	4/5/20		
2-M	4/6/20	<0.028	J 0.021
2-T	4/7/20		
2-W	4/8/20		
2-Th	4/9/20		
2-F	4/10/20		
2-Sa	4/11/20		
3-Su	4/12/20		
3-M	4/13/20	<0.025	<0.014
3-T	4/14/20		
3-W	4/15/20		
3-Th	4/16/20		
3-F	4/17/20		
3-Sa	4/18/20		
4-Su	4/19/20		
4-M	4/20/20	<0.027	<0.015
4-T	4/21/20		
4-W	4/22/20		
4-Th	4/23/20		
4-F	4/24/20		
4-Sa	4/25/20		
5-Su	4/26/20		
5-M	4/27/20	<0.027	<0.014
5-T	4/28/20		
5-W	4/29/20		
5-Th	4/30/20		
Daily Minimum			
Daily Maximum		<0.028 Report Only	J 0.021 Report Only



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Garrick Jauregui

5/27/2020 12:27:00 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 05/01/2020 - 05/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-F	5/1/20											
1-Sa	5/2/20											
2-Su	5/3/20	60	8.27	<0.24	<100	<72	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-M	5/4/20											
2-T	5/5/20											
2-W	5/6/20											
2-Th	5/7/20											
2-F	5/8/20											
2-Sa	5/9/20											
3-Su	5/10/20											
3-M	5/11/20	76	8.76	<0.24	<100	<71	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-T	5/12/20											
3-W	5/13/20											
3-Th	5/14/20											
3-F	5/15/20											
3-Sa	5/16/20											
4-Su	5/17/20											
4-M	5/18/20											
4-T	5/19/20	65	8.74	<0.24	<100	<65	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-W	5/20/20											
4-Th	5/21/20											
4-F	5/22/20											
4-Sa	5/23/20											
5-Su	5/24/20											
5-M	5/25/20											
5-T	5/26/20	58	8.72	<0.24	<100	200	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-W	5/27/20											
5-Th	5/28/20											
5-F	5/29/20											
5-Sa	5/30/20											
6-Su	5/31/20											
Daily Minimum			8.27									
			>= 6.0 (RO)									
Daily Maximum		76	8.76	B 0.24	B 100	200	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-F	5/1/20		
1-Sa	5/2/20		
2-Su	5/3/20	<0.027	<0.014
2-M	5/4/20		
2-T	5/5/20		
2-W	5/6/20		
2-Th	5/7/20		
2-F	5/8/20		
2-Sa	5/9/20		
3-Su	5/10/20		
3-M	5/11/20	<0.026	<0.014
3-T	5/12/20		
3-W	5/13/20		
3-Th	5/14/20		
3-F	5/15/20		
3-Sa	5/16/20		
4-Su	5/17/20		
4-M	5/18/20		
4-T	5/19/20	<0.026	<0.014
4-W	5/20/20		
4-Th	5/21/20		
4-F	5/22/20		
4-Sa	5/23/20		
5-Su	5/24/20		
5-M	5/25/20		
5-T	5/26/20	<0.026	<0.014
5-W	5/27/20		
5-Th	5/28/20		
5-F	5/29/20		
5-Sa	5/30/20		
6-Su	5/31/20		
Daily Minimum			
Daily Maximum		B 0.027 Report Only	B 0.014 Report Only



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

Garrick Jauregui

6/26/2020 3:59:15 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 06/01/2020 - 06/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-M	6/1/20	41	8.64	B 0.24	B 100	B 70	B 0.010	B 0.016	B 0.012	B 0.013	B 0.018	B 0.012
1-T	6/2/20											
1-W	6/3/20											
1-Th	6/4/20											
1-F	6/5/20											
1-Sa	6/6/20											
2-Su	6/7/20											
2-M	6/8/20	57	8.88	B 0.24	B 100	B 71	B 0.010	B 0.015	B 0.012	B 0.013	B 0.017	B 0.012
2-T	6/9/20											
2-W	6/10/20											
2-Th	6/11/20											
2-F	6/12/20											
2-Sa	6/13/20											
3-Su	6/14/20											
3-M	6/15/20	48	8.71	B 0.24	B 100	B 65	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
3-T	6/16/20											
3-W	6/17/20											
3-Th	6/18/20											
3-F	6/19/20											
3-Sa	6/20/20											
4-Su	6/21/20											
4-M	6/22/20	55	8.77	B 0.24	B 100	J 76	B 0.010	B 0.015	B 0.012	B 0.013	B 0.017	B 0.012
4-T	6/23/20											
4-W	6/24/20											
4-Th	6/25/20											
4-F	6/26/20											
4-Sa	6/27/20											
5-Su	6/28/20											
5-M	6/29/20											
5-T	6/30/20	68	8.88	B 0.24	B 100	B 67	B 0.009	B 0.014	B 0.011	B 0.012	B 0.016	B 0.011
Daily Minimum			8.64 >= 6.0 (RO)									
Daily Maximum		68 =<= 100 (RO)	8.88 =<= 9.0 (RO)	B 0.24 =<= 16 (RO)	B 100 =<= 800 (RO)	J 76 =<= 500 (RO)	B 0.01 =<= 0.05 (RO)	B 0.016 Report Only	B 0.012 Report Only	B 0.013 Report Only	B 0.018 Report Only	B 0.012 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-M	6/1/20	B 0.029	B 0.016
1-T	6/2/20		
1-W	6/3/20		
1-Th	6/4/20		
1-F	6/5/20		
1-Sa	6/6/20		
2-Su	6/7/20		
2-M	6/8/20	B 0.027	B 0.015
2-T	6/9/20		
2-W	6/10/20		
2-Th	6/11/20		
2-F	6/12/20		
2-Sa	6/13/20		
3-Su	6/14/20		
3-M	6/15/20	B 0.027	B 0.014
3-T	6/16/20		
3-W	6/17/20		
3-Th	6/18/20		
3-F	6/19/20		
3-Sa	6/20/20		
4-Su	6/21/20		
4-M	6/22/20	B 0.016	B 0.015
4-T	6/23/20		
4-W	6/24/20		
4-Th	6/25/20		
4-F	6/26/20		
4-Sa	6/27/20		
5-Su	6/28/20		
5-M	6/29/20		
5-T	6/30/20	B 0.015	B 0.014
Daily Minimum			
Daily Maximum		B 0.029 Report Only	B 0.016 Report Only



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Garrick Jauregui

7/21/2020 3:05:57 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 07/01/2020 - 07/31/2020

Outfall: 002 - Willow Creek

Version: 2

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-W	7/1/20											
1-Th	7/2/20											
1-F	7/3/20											
1-Sa	7/4/20											
2-Su	7/5/20											
2-M	7/6/20	45	8.94	<0.24	<100	<73	<0.046	<0.073	<0.057	<0.062	<0.083	<0.057
2-T	7/7/20											
2-W	7/8/20											
2-Th	7/9/20											
2-F	7/10/20											
2-Sa	7/11/20											
3-Su	7/12/20											
3-M	7/13/20	C	C	C	C	C	C	C	C	C	C	C
3-T	7/14/20											
3-W	7/15/20											
3-Th	7/16/20											
3-F	7/17/20											
3-Sa	7/18/20											
4-Su	7/19/20											
4-M	7/20/20	C	C	C	C	C	C	C	C	C	C	C
4-T	7/21/20											
4-W	7/22/20											
4-Th	7/23/20											
4-F	7/24/20											
4-Sa	7/25/20											
5-Su	7/26/20											
5-M	7/27/20	C	C	C	C	C	C	C	C	C	C	C
5-T	7/28/20											
5-W	7/29/20											
5-Th	7/30/20											
5-F	7/31/20											
Daily Minimum			8.94									
			>= 6.0 (RO)									
Daily Maximum		45	8.94	<0.24	<100	<73	<0.046	<0.073	<0.057	<0.062	<0.083	<0.057
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, C - No Discharge



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-W	7/1/20		
1-Th	7/2/20		
1-F	7/3/20		
1-Sa	7/4/20		
2-Su	7/5/20		
2-M	7/6/20	<0.078	<0.073
2-T	7/7/20		
2-W	7/8/20		
2-Th	7/9/20		
2-F	7/10/20		
2-Sa	7/11/20		
3-Su	7/12/20		
3-M	7/13/20	C	C
3-T	7/14/20		
3-W	7/15/20		
3-Th	7/16/20		
3-F	7/17/20		
3-Sa	7/18/20		
4-Su	7/19/20		
4-M	7/20/20	C	C
4-T	7/21/20		
4-W	7/22/20		
4-Th	7/23/20		
4-F	7/24/20		
4-Sa	7/25/20		
5-Su	7/26/20		
5-M	7/27/20	C	C
5-T	7/28/20		
5-W	7/29/20		
5-Th	7/30/20		
5-F	7/31/20		
Daily Minimum			
Daily Maximum		<0.078 Report Only	<0.073 Report Only



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

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 08/01/2020 - 08/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (11,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Sa	8/1/20											
2-Su	8/2/20											
2-M	8/3/20											
2-T	8/4/20											
2-W	8/5/20											
2-Th	8/6/20											
2-F	8/7/20	C	C	C	C	C	C	C	C	C	C	C
2-Sa	8/8/20											
3-Su	8/9/20											
3-M	8/10/20											
3-T	8/11/20											
3-W	8/12/20											
3-Th	8/13/20											
3-F	8/14/20	64	8.30	<0.24	<100	<63	<0.010	<0.014	<0.011	<0.013	<0.017	<0.012
3-Sa	8/15/20											
4-Su	8/16/20											
4-M	8/17/20											
4-T	8/18/20											
4-W	8/19/20	1	7.84	<0.24	<100	<68	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
4-Th	8/20/20											
4-F	8/21/20											
4-Sa	8/22/20											
5-Su	8/23/20											
5-M	8/24/20											
5-T	8/25/20											
5-W	8/26/20	20	7.37	<0.24	<100	<73	<0.011	<0.017	<0.013	<0.014	<0.019	<0.013
5-Th	8/27/20											
5-F	8/28/20											
5-Sa	8/29/20											
6-Su	8/30/20											
6-M	8/31/20											
Daily Minimum			7.37									
			>= 6.0 (RO)									
Daily Maximum		64	8.3	<0.24	<100	<73	<0.011	<0.017	<0.013	<0.014	<0.019	<0.013
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, C - No Discharge



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Sa	8/1/20		
2-Su	8/2/20		
2-M	8/3/20		
2-T	8/4/20		
2-W	8/5/20		
2-Th	8/6/20		
2-F	8/7/20	C	C
2-Sa	8/8/20		
3-Su	8/9/20		
3-M	8/10/20		
3-T	8/11/20		
3-W	8/12/20		
3-Th	8/13/20		
3-F	8/14/20	<0.016	<0.015
3-Sa	8/15/20		
4-Su	8/16/20		
4-M	8/17/20		
4-T	8/18/20		
4-W	8/19/20	<0.016	<0.014
4-Th	8/20/20		
4-F	8/21/20		
4-Sa	8/22/20		
5-Su	8/23/20		
5-M	8/24/20		
5-T	8/25/20		
5-W	8/26/20	<0.018	<0.017
5-Th	8/27/20		
5-F	8/28/20		
5-Sa	8/29/20		
6-Su	8/30/20		
6-M	8/31/20		
Daily Minimum			
Daily Maximum		<0.018	<0.017
		Report Only	Report Only



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Garrick Jauregui

9/28/2020 1:35:46 PM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 09/01/2020 - 09/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Ox) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-T	9/1/20											
1-W	9/2/20	50.4	7.73	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
1-Th	9/3/20											
1-F	9/4/20											
1-Sa	9/5/20											
2-Su	9/6/20											
2-M	9/7/20											
2-T	9/8/20											
2-W	9/9/20											
2-Th	9/10/20	<100*	8.03	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
2-F	9/11/20											
2-Sa	9/12/20											
3-Su	9/13/20											
3-M	9/14/20											
3-T	9/15/20											
3-W	9/16/20											
3-Th	9/17/20											
3-F	9/18/20	<100*	8.03	<0.24	<100	J 93	J 0.012	<0.017	J 0.013	<0.014	<0.019	<0.013
3-Sa	9/19/20											
4-Su	9/20/20											
4-M	9/21/20											
4-T	9/22/20											
4-W	9/23/20											
4-Th	9/24/20	<100*	6.90	<0.24	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-F	9/25/20											
4-Sa	9/26/20											
5-Su	9/27/20											
5-M	9/28/20											
5-T	9/29/20											
5-W	9/30/20	<100*	7.95	<0.24	<100	<66	<0.009	<0.014	<0.011	<0.012	<0.017	<0.011
Daily Minimum			6.90 ≥ 6.0 (RO)									
Daily Maximum		<100 ≤ 100 (RO)	8.03 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	J 93 ≤ 500 (RO)	J 0.012 ≤ 0.05 (RO)	<0.017 Report Only	J 0.013 Report Only	<0.014 Report Only	<0.019 Report Only	<0.013 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-T	9/1/20		
1-W	9/2/20	<0.015	<0.014
1-Th	9/3/20		
1-F	9/4/20		
1-Sa	9/5/20		
2-Su	9/6/20		
2-M	9/7/20		
2-T	9/8/20		
2-W	9/9/20		
2-Th	9/10/20	<0.015	<0.014
2-F	9/11/20		
2-Sa	9/12/20		
3-Su	9/13/20		
3-M	9/14/20		
3-T	9/15/20		
3-W	9/16/20		
3-Th	9/17/20		
3-F	9/18/20	<0.018	J 0.018
3-Sa	9/19/20		
4-Su	9/20/20		
4-M	9/21/20		
4-T	9/22/20		
4-W	9/23/20		
4-Th	9/24/20	<0.015	<0.014
4-F	9/25/20		
4-Sa	9/26/20		
5-Su	9/27/20		
5-M	9/28/20		
5-T	9/29/20		
5-W	9/30/20	<0.016	<0.014
Daily Minimum			
Daily Maximum		<0.018	J 0.018
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	9/10/2020	B <100	Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/18/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/24/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.
DPE	Flow Gallons/minute (gpm)	9/30/2020	B <100	Remediation system nonoperational during this period. Forced discharge conducted to collect sample. Discharge rate estimated to be less than 100 gallons per minute during system and flowmeter repairs based on previous data.

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Garrick Jauregui

Signature

10/23/2020 3:27:00 PM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 10/01/2020 - 10/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Th	10/1/20											
1-F	10/2/20											
1-Sa	10/3/20											
2-Su	10/4/20											
2-M	10/5/20	<100*	7.68	<0.24	<100	<69	<0.009	<0.015	<0.012	<0.013	<0.017	<0.012
2-T	10/6/20											
2-W	10/7/20											
2-Th	10/8/20											
2-F	10/9/20											
2-Sa	10/10/20											
3-Su	10/11/20											
3-M	10/12/20											
3-T	10/13/20											
3-W	10/14/20											
3-Th	10/15/20											
3-F	10/16/20	<100*	7.93	<0.24	<100	<69	<0.010	<0.016	<0.012	<0.013	<0.018	<0.012
3-Sa	10/17/20											
4-Su	10/18/20											
4-M	10/19/20											
4-T	10/20/20											
4-W	10/21/20	<100*	7.73	<0.24	<100	<69	J 0.017	J 0.037	J 0.021	J 0.019	J 0.033	<0.014
4-Th	10/22/20											
4-F	10/23/20											
4-Sa	10/24/20											
5-Su	10/25/20											
5-M	10/26/20											
5-T	10/27/20	90*	7.97	<0.24	<100	<73	<0.010	<0.015	<0.012	<0.013	<0.017	<0.015
5-W	10/28/20											
5-Th	10/29/20											
5-F	10/30/20											
5-Sa	10/31/20											
Daily Minimum			7.68									
			>= 6.0 (RO)									
Daily Maximum		90	7.97	<0.24	<100	<73	J 0.017	J 0.037	J 0.021	J 0.019	J 0.033	<0.015
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Th	10/1/20		
1-F	10/2/20		
1-Sa	10/3/20		
2-Su	10/4/20		
2-M	10/5/20	<0.016	<0.015
2-T	10/6/20		
2-W	10/7/20		
2-Th	10/8/20		
2-F	10/9/20		
2-Sa	10/10/20		
3-Su	10/11/20		
3-M	10/12/20		
3-T	10/13/20		
3-W	10/14/20		
3-Th	10/15/20		
3-F	10/16/20	<0.017	<0.016
3-Sa	10/17/20		
4-Su	10/18/20		
4-M	10/19/20		
4-T	10/20/20		
4-W	10/21/20	<0.019	<0.017
4-Th	10/22/20		
4-F	10/23/20		
4-Sa	10/24/20		
5-Su	10/25/20		
5-M	10/26/20		
5-T	10/27/20	<0.016	<0.015
5-W	10/28/20		
5-Th	10/29/20		
5-F	10/30/20		
5-Sa	10/31/20		
Daily Minimum			
Daily Maximum		<0.019	<0.017
		Report Only	Report Only



Outfall: 002 - Willow Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
DPE	Flow Gallons/minute (gpm)	10/5/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>
DPE	Flow Gallons/minute (gpm)	10/16/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>
DPE	Flow Gallons/minute (gpm)	10/21/2020	B <100	<p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>Remediation system and flow gauge nonoperational during this period. Discharge was forced to collect sample.</p> <p>Forced discharge rate was instantaneously measured to be 110 gallons per minute on October 23rd during installation of replacement flow meter. Discharge was not continuous during this period. Flow rate subsequently reduced.</p> <p>Discharged volume during the period within monthly permitted discharge limits.</p> <p>No discharge from remediation system during this period.</p>



DPE	Flow	10/27/2020	90	No discharge from remediation system during this period.
	Gallons/minute (gpm)			

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Garrick Jauregui

Signature

11/30/2020 9:58:20 AM

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 11/01/2020 - 11/30/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-Su	11/1/20											
1-M	11/2/20	90	7.43	<0.24	<100	<68	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
1-T	11/3/20											
1-W	11/4/20											
1-Th	11/5/20											
1-F	11/6/20											
1-Sa	11/7/20											
2-Su	11/8/20											
2-M	11/9/20											
2-T	11/10/20	92	7.13	<0.24	<100	<69	<0.010	<0.016	<0.013	<0.014	<0.019	<0.013
2-W	11/11/20											
2-Th	11/12/20											
2-F	11/13/20											
2-Sa	11/14/20											
3-Su	11/15/20											
3-M	11/16/20											
3-T	11/17/20											
3-W	11/18/20											
3-Th	11/19/20											
3-F	11/20/20	90	7.88	<0.24	<100	<68	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
3-Sa	11/21/20											
4-Su	11/22/20											
4-M	11/23/20	92	8.01	<0.24	<100	<63	J 0.012	J 0.034	<0.011	<0.012	J 0.05	<0.011
4-T	11/24/20											
4-W	11/25/20											
4-Th	11/26/20											
4-F	11/27/20											
4-Sa	11/28/20											
5-Su	11/29/20											
5-M	11/30/20											
Daily Minimum			7.13 ≥ 6.0 (RO)									
Daily Maximum		92 ≤ 100 (RO)	8.01 ≤ 9.0 (RO)	<0.24 ≤ 16 (RO)	<100 ≤ 800 (RO)	<69 ≤ 500 (RO)	J 0.012 ≤ 0.05 (RO)	J 0.034 Report Only	<0.013 Report Only	<0.014 Report Only	J 0.05 Report Only	<0.013 Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-Su	11/1/20		
1-M	11/2/20	<0.016	<0.015
1-T	11/3/20		
1-W	11/4/20		
1-Th	11/5/20		
1-F	11/6/20		
1-Sa	11/7/20		
2-Su	11/8/20		
2-M	11/9/20		
2-T	11/10/20	<0.017	<0.016
2-W	11/11/20		
2-Th	11/12/20		
2-F	11/13/20		
2-Sa	11/14/20		
3-Su	11/15/20		
3-M	11/16/20		
3-T	11/17/20		
3-W	11/18/20		
3-Th	11/19/20		
3-F	11/20/20	<0.015	<0.014
3-Sa	11/21/20		
4-Su	11/22/20		
4-M	11/23/20	<0.015	<0.014
4-T	11/24/20		
4-W	11/25/20		
4-Th	11/26/20		
4-F	11/27/20		
4-Sa	11/28/20		
5-Su	11/29/20		
5-M	11/30/20		
Daily Minimum			
Daily Maximum		<0.017 Report Only	<0.016 Report Only



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

Owen Ranta

12/18/2020 11:11:30 AM

Signature

Date



Permit Number: WA0991007

Permittee: Former Unocal Edmonds Bulk Terminal

Facility County: Snohomish

Receiving Waterbody: Shelleberger Creek

Monitoring Period: 12/01/2020 - 12/31/2020

Outfall: 002 - Willow Creek

Version: 1

Week	Monitoring Point	Flow Gallons/minute (gpm) Weekly Metered/Recorded	pH Standard Units Weekly Grab	Benzene Micrograms/L (ug/L) Weekly Grab	NWTPHGx Gasoline (NWTPH Gx) (volatile) Micrograms/L (ug/L) Weekly Grab	NWTPHDx Diesel (NWTPH Dx) (semi-volatile) Micrograms/L (ug/L) Weekly Grab	Polynuclear Aromatic Hydrocarbons (PAH) Carcinogenic PAHs Micrograms/L (ug/L) Weekly Calculated	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (3,4-Benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene (1,1,12-benzofluoranthene) Micrograms/L (ug/L) Weekly Grab	Chrysene Micrograms/L (ug/L) Weekly Grab	Benzofluoranthene Micrograms/L (ug/L) Weekly Grab
Week	Monitoring Point	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE	DPE
1-T	12/1/20	90	8.33	<0.24	<100	<67	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
1-W	12/2/20											
1-Th	12/3/20											
1-F	12/4/20											
1-Sa	12/5/20											
2-Su	12/6/20											
2-M	12/7/20											
2-T	12/8/20											
2-W	12/9/20											
2-Th	12/10/20	80	8.12	<0.24	<100	<72	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
2-F	12/11/20											
2-Sa	12/12/20											
3-Su	12/13/20											
3-M	12/14/20											
3-T	12/15/20											
3-W	12/16/20	88	8.20	<0.24	<100	<70	<0.010	<0.015	<0.012	<0.013	<0.017	<0.012
3-Th	12/17/20											
3-F	12/18/20											
3-Sa	12/19/20											
4-Su	12/20/20											
4-M	12/21/20	45	8.44	<0.24	<100	<69	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
4-T	12/22/20											
4-W	12/23/20											
4-Th	12/24/20											
4-F	12/25/20											
4-Sa	12/26/20											
5-Su	12/27/20											
5-M	12/28/20											
5-T	12/29/20											
5-W	12/30/20	66	6.78	<0.24	<100	<73	<0.009	<0.014	<0.011	<0.012	<0.016	<0.011
5-Th	12/31/20											
Daily Minimum			6.78									
			>= 6.0 (RO)									
Daily Maximum		90	8.44	<0.24	<100	<73	<0.01	<0.015	<0.012	<0.013	<0.017	<0.012
		<= 100 (RO)	<= 9.0 (RO)	<= 16 (RO)	<= 800 (RO)	<= 500 (RO)	<= 0.05 (RO)	Report Only	Report Only	Report Only	Report Only	Report Only

Reporting Codes Used: B - Below Detection Limit/No Detection



Week	Monitoring Point	Dibenzofuran/fluorene Micrograms/L (ug/L) Weekly Grab	Indeno(1,2,3-cd)pyrene Micrograms/L (ug/L) Weekly Grab
		DPE	DPE
1-T	12/1/20	<0.015	<0.014
1-W	12/2/20		
1-Th	12/3/20		
1-F	12/4/20		
1-Sa	12/5/20		
2-Su	12/6/20		
2-M	12/7/20		
2-T	12/8/20		
2-W	12/9/20		
2-Th	12/10/20	<0.016	<0.015
2-F	12/11/20		
2-Sa	12/12/20		
3-Su	12/13/20		
3-M	12/14/20		
3-T	12/15/20		
3-W	12/16/20	<0.016	<0.015
3-Th	12/17/20		
3-F	12/18/20		
3-Sa	12/19/20		
4-Su	12/20/20		
4-M	12/21/20	<0.015	<0.014
4-T	12/22/20		
4-W	12/23/20		
4-Th	12/24/20		
4-F	12/25/20		
4-Sa	12/26/20		
5-Su	12/27/20		
5-M	12/28/20		
5-T	12/29/20		
5-W	12/30/20	<0.015	<0.014
5-Th	12/31/20		
Daily Minimum			
Daily Maximum		<0.016	<0.015
		Report Only	Report Only



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

James kiernan

1/19/2021 2:16:38 PM

Signature

Date