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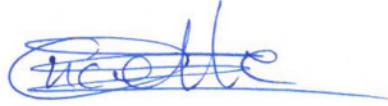
**2021 GROUNDWATER MONITORING  
AND DUAL-PHASE EXTRACTION  
SYSTEM OPERATION REPORT**

Former Unocal Edmonds Bulk Fuel Terminal  
Edmonds, Washington

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April 28, 2022

2021 GROUNDWATER MONITORING AND DUAL-PHASE EXTRACTION SYSTEM OPERATION  
REPORT



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Ophélie Encelle  
Associate Project Manager



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Peter Campbell PE  
Project Engineer



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Samuel Miles  
Project Manager

**2021 GROUNDWATER  
MONITORING AND  
DUAL-PHASE  
EXTRACTION SYSTEM  
OPERATION REPORT**

Former Unocal Edmonds Bulk Fuel  
Terminal  
Edmonds, Washington

Prepared for:

Chevron Environmental Management  
Company

Prepared by:

Arcadis U.S., Inc.

1100 Olive Way

Suite 800

Seattle

Washington 98101

Tel 206 325 5254

Fax 206 325 8218

Our Ref.:

Date:

April 28, 2022

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## ACRONYMS AND ABBREVIATIONS

2021 GOR	2021 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

# 2021 GROUNDWATER MONITORING AND DUAL-PHASE EXTRACTION SYSTEM OPERATION REPORT

## 1. INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) prepared this 2021 Groundwater Monitoring and Dual-Phase Extraction System Operation Report (2021 GOR) for the former Union Oil Company of California (Unocal) Edmonds Bulk Fuel Terminal, located at 11720 Unoco Road in Edmonds, Washington (Site). CEMC manages environmental matters on behalf of Unocal. The Site and surrounding area are shown on Figure 1-1.

This 2021 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 2021, 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. WA0991007.

The 2021 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 2021.

#### 3.1 Groundwater Monitoring Program

The groundwater monitoring program includes quarterly events. The events include sampling of the 37 interior and perimeter monitoring wells listed in the CMP (Arcadis 2017c), in Table 3-1 below, and shown on Figure 3-1. Note that well MW-E-R was added to the monitoring network in March 2018 but is not part of the historical network of compliance monitoring wells. The groundwater monitoring program also includes gauging of 53 monitoring wells, i.e. the 37 monitoring wells listed below in addition to 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 light nonaqueous phase liquid (LNAPL) (measurable thickness or trace) 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.<sup>1</sup>

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 8260<sup>2</sup>
  - 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).

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

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

**Notes:**

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

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

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

## 3.3 2021 Groundwater Sampling Events

### 3.3.1 Field Activities

Arcadis performed the following quarterly groundwater sampling events in 2021:

- First quarter: March 1 to 4.
- Second quarter: June 21 to 24.
- Third quarter: August 23 to 26. Monitoring well MW-505 could not be gauged or sampled during the third quarter due to the presence of a wasp nest in the well box. Monitoring well MW-109 could not be gauged during the third quarter due to vegetation blocking its access.
- Fourth quarter: November 1 to 4. Monitoring well MW-109 could not be gauged during the third quarter due to well inaccessibility vegetation blocking its access.

Gauging was implemented per the groundwater monitoring program described in Section 3.1. The depths to groundwater in monitoring wells were measured on March 1, June 22, August 23, and November 5, within a 2-hour window during low tide, according to the tide charts for Edmonds presented in Appendix A. Groundwater event 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 located in Lancaster, Pennsylvania, an



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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 2021, 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 indicates 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 in 2021, 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 2021 groundwater flow directions were consistent with historical data.

### 3.3.3 Analytical Results

Thirty-one (31) of the 37 POC monitoring wells contained either non-detect COC concentrations or concentrations less than the 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 2021. During 2021, 46 of the 53 wells were in compliance with the Site groundwater CULs. Most wells have met the Site groundwater CULs from 10 to 47 consecutive quarters. The only wells with groundwater concentrations observed above the Site groundwater CULs are located within the areas currently being remediated by the DPE system (MW-101, MW-129-R, MW-518, MW-526, and MW-E-R). One well located outside of the areas currently being remediated (MW-503) had groundwater concentrations observed above the Site groundwater CULs, but those results appear to be anomalous. Details are further described below. 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.

#### 3.3.3.1 Constituent of Concern Concentrations

For each quarterly groundwater sampling event during 2021, COC results relative to the respective CULs are listed below (see Table 3-4):

- First quarter:

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- *TPH*. MW-503 (Duplicate), MW-518, and MW-518 (Duplicate) contained TPH concentrations of 931, 827, and 810 µg/L, respectively.
- *Benzene*. No exceedances were observed.
- *cPAHs*. No exceedances were observed.
- Second quarter:
  - *TPH*. MW-101, MW-526, MW-E-R, and MW-E-R (Duplicate) contained TPH concentrations of 1,525, 727, 732, and 743 µg/L, respectively.
  - *Benzene*. No exceedances were observed.
  - *cPAHs*. MW-503 (Duplicate) contained an estimated<sup>3</sup> cPAHs concentration of 0.235 µg/L. A data validation was performed regarding this concentration and is available in Appendix D. That detection appears anomalous as cPAHs were never detected in any of the 25 samples collected from this well before the detection nor in any of the two samples collected from this well since the detection. Additionally, during this one detection occurrence, only the duplicate sample collected contained detections, the parent sample did not have any detections.
- Third quarter:
  - *TPH*. MW-101, MW-101 (Duplicate), MW-129R, MW-518, MW-526, MW-526 (Duplicate), MW-E-R and MW-E-R (Duplicate) contained TPH concentrations of 971, 977, 820, 993, 791, 835, 1,710, and 2,400 µg/L, respectively.
  - *Benzene*. No exceedances were observed.
  - *cPAHs*. One sample (MW-E-R) did not contain concentrations above the reporting limits; however, the sum of half the reporting limits as calculated per the description in Section 3.2. was above the site-specific total cPAHs TEQ CUL.
- Fourth quarter:
  - *TPH*. MW-E-R contained a TPH concentration of 997 µg/L.
  - *Benzene*. No exceedances were observed.
  - *cPAHs*. No exceedances were observed.

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<sup>3</sup> The benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene results exhibited differences that exceeded the control limit. The benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene results for MW-503 and DUP-1 were therefore qualified as estimated.

### 3.3.3.2 Monitored Natural Attenuation Parameters

Thirty-two (32) of the 37 POCs sampled during the June 2021 event contained methane concentrations greater than the reporting limit of 3 µg/L, and 20 of those POCs contained methane concentrations greater than 100 µg/L, suggesting degradation of organic constituents.

Twenty-four (24) of the 37 POCs sampled during the November 2021 event contained methane concentrations greater than the reporting limit of 3 µg/L, and 13 of those POCs contained methane concentrations greater than 100 µg/L, again suggesting degradation of organic constituents.

### 3.3.4 Light Non-Aqueous Phase Liquid Monitoring

LNAPL is monitored at the Site during the quarterly groundwater monitoring events and remediation system compliance monitoring. LNAPL is assessed using an NAPL-water interface probe. The electronic interface probe is placed at the depth where the instrument produces a signal indicating a fluid interface (LNAPL and groundwater interfaces produce distinct signals). The interface probe is then brought back to the surface of the well and the tip of the interface probe is inspected for any indication of LNAPL. If a LNAPL signal is produced or trace LNAPL is observed on the tip of the probe, a bailer is used to confirm the absence/presence of measurable LNAPL. Further details on remediation system operation are provided in Section 4.2 and in Tables 4-1 to 4-7.

Fifty-one (51) of the 52 groundwater compliance monitoring wells contained no LNAPL (measurable thickness or trace) during 2021. Monitoring well MW-E-R also contained no LNAPL (measurable thickness or trace) during 2021. Eight of the nine piezometers used as observation wells for the DPE system also contained no LNAPL (measurable thickness or trace) during 2021 (see Tables 3-3 and 4-6).

Measurable thicknesses of LNAPL were observed once on July 16, 2021, in two observation wells located near DPE wells designed to remediate remaining petroleum hydrocarbon-impacted soil. The LNAPL observations were associated with fluctuations of the groundwater table caused by discontinuous DPE system operation (static and induced drawdown conditions). LNAPL was measured in groundwater compliance monitoring wells MW-129R and piezometer PZ-2 at thicknesses of 0.03 and 0.02 feet, respectively (MW-129R is located 8 feet from DPE well DPE-18 and PZ-2 is located 8 feet from DPE well DPE-1). These observations occurred a month after the DPE system was restarted following shutdown due to a mechanical failure from September 9, 2020 to June 15, 2021 when repairs were completed. An oil absorbent sock was placed in both MW-129R and PZ-2 on July 16 and weekly gauging was initiated. Weekly gauging was conducted for the remainder of the year and no measurable LNAPL was observed in MW-129R or PZ-2 using either a bailer or an interface probe. Observations are reported in Table 4-6. Oil absorbent socks were placed, replaced, or removed weekly as needed in both MW-129R and PZ-2 as indicated in Table 4-6. No evidence of LNAPL (measurable thickness or trace) was observed in MW-129R or PZ-2 from November 15 to December 31, 2021.

## 4. REMEDIATION SYSTEM

This section discusses the remediation system background and operations conducted at the Site in 2021.

### 4.1 Remediation System Background

The DPE system was installed in 2017 to address remaining impacts near the Washington State Department of Transportation (WSDOT) 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 two bag filters, and two sets in parallel of two 3,000-pound granular activated carbon (GAC) vessels. Extracted vapors are treated using a catalytic oxidizer unit prior to discharge to the atmosphere. Treated water from the DPE system is discharged to DB-1 and then 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 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 28<sup>th</sup> day of each month into Ecology's online system WQWebDMR.

An application for Renewal of NPDES Permit No. WA0991007 was submitted to Ecology on April 28, 2021. Ecology acknowledged receiving the application on August 19, 2021 (Ecology 2021). In accordance with this letter, the current permit and its terms and conditions are administratively extended until Ecology issues a new permit.

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, vapor-phase mass removal rates exceeded 40 lbs/day but by December 2018 had decreased to less than 1 lb/day and reached asymptotic levels. 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 during September 2019 following DPE system expansion. A mechanical failure required

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DPE system shutdown from September 27, 2019 to January 31, 2020 when repairs were completed. The groundwater extraction components of the DPE system were restarted on January 31, 2020, while the SVE components were restarted on February 13, 2020. The system operated from January 31 to July 12, 2020 with the exception of two shutdown periods to allow for groundwater monitoring and short-term disruption for routine system maintenance such as bag filter change. The system shut down on July 13, 2020 due to mechanical issues that were repaired on August 7. The system operated from August 7 to September 9, 2020 with the exception of short-term disruption for routine system maintenance. 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 were both restarted on June 15, 2021.

### 4.2 Remediation System Operation

From January 1 through December 31, 2021, 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). In 2021, DPE system operation is summarized below:
  - As mentioned above, a 2020 carbon vessel failure required DPE system shutdown until June 15, 2021 when repairs were completed and new vessels installed. The groundwater extraction and SVE components of the DPE system were both restarted on June 15, 2021. Following restart, the system was shut down from June 16 through July 9 to allow for groundwater monitoring.
  - Both the groundwater extraction and SVE components of the DPE system operated from July 9 to August 17 with minimal interruptions for bag filter change. The DPE system was shut down from August 17 through 27 to allow for groundwater monitoring implementation.
  - Both the groundwater extraction and SVE components of the DPE system operated from August 27 to October 10 with minimal interruptions for bag filter change. The system was shut down from October 11 through 15 for general maintenance. The DPE system was shut down from October 25 through November 10 to allow for groundwater monitoring implementation and repairs.
  - Both the groundwater extraction and the SVE components of the DPE system operated from November 10 through December 13 with intermittent shutdowns due to bag filter changeouts and excessive back pressure on the main carbon vessels. Lead carbon vessel changeout for DPE system optimization was conducted from December 13 through 15. Following carbon changeout, the system operated from December 15 through 23 with minimal shutdowns due to bag filter changeouts. The remediation system was shut down and remained off from December 23 through January 5, 2022, due to severe winter weather conditions.
- 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) and by collecting samples as needed (see Section 4.3).

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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 operational 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.

The DPE system operation is summarized below:

<b>System startup date:</b>	12/01/2017
<b>Remedial technology:</b>	Dual-phase extraction and treatment system
<b>System operation:</b>	Operation from 12/01/2017 to 12/31/2021 (not continuous) with approximately 9,017 hours of operation time <sup>4</sup> since system startup.
<b>System OM&amp;M schedule:</b>	OM&M was performed according to the OM&M Manual (Arcadis. 2017a) and the CMP (Arcadis. 2017c).
<b>NPDES permit conditions met:</b>	Yes
<b>PSCAA permit conditions met:</b>	Yes
<b>Total water volume treated (gallons) since beginning of operation:</b>	16,799,942
<b>Approximate total vapor-phase mass removed since beginning of operation:</b>	
<b>field data (PID):</b>	581 pounds volatile organic compounds
<b>analytical data:</b>	743 pounds GRO

### 4.3 Effluent Discharge

#### 4.3.1 2021 Water Discharge

Samples of the discharge into Willow Creek at Outfall #002 under NPDES Waste Discharge Permit No. WA0991007 were collected weekly throughout 2021 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 2021.

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

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<sup>4</sup> Operation time of the in well DPE pumps.

### **4.3.2 2021 Vapor Discharge**

Pre- and post-treatment effluent vapor monitoring under PSCAA Permit No.29892 was implemented from June 15 through December 23, 2021. All post-treatment vapor discharge concentrations, discharge flow, and treatment temperatures met permit conditions during 2021. 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.

## 5. REFERENCES

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- Ecology. 2007. Agreed Order No. DE 4460
- Ecology. 2021. National Pollutant Discharge Elimination System (NPDES) Permit No. WA0991007; Former Unocal Edmonds Bulk Terminal. August 19.
- USEPA. 2015. National Recommended Water Quality Criteria – Human Health Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>. Accessed on June 6, 2016.



# 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	11:45	8.14	1.62	--	NP	6.52	--
LM-2	03/01/21	12:44	8.14	1.42	--	NP	6.72	--
LM-2	06/22/21	9:44	8.14	1.51	--	NP	6.63	--
LM-2	08/23/21	11:56	8.14	1.46	--	NP	6.68	--
LM-2	11/05/21	11:34	8.14	1.84	--	NP	6.30	PID: 0.1
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	--

**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	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	--
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-E-R	03/01/21	11:34	14.30	6.65	--	NP	7.65	--
MW-E-R	06/22/21	9:26	14.30	7.02	--	NP	7.28	PID: 1.6
MW-E-R	08/23/21	11:30	14.30	7.23	--	NP	7.07	PID: 3.0
MW-E-R	11/05/21	11:20	14.30	6.45	--	NP	7.85	PID: 0.1
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	--

**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-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-8R	03/01/21	12:20	13.82	8.23	--	NP	5.59	--
MW-8R	06/22/21	8:58	13.82	8.45	--	NP	5.37	--
MW-8R	08/23/21	11:49	13.82	8.26	--	NP	5.56	--
MW-8R	11/05/21	11:53	13.82	8.15	--	NP	5.67	--
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	--
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	--

**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	06/22/20	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-101	03/01/21	12:33	14.99	8.79	--	NP	6.20	--
MW-101	06/22/21	9:25	14.99	9.06	--	NP	5.93	PID: 0.9
MW-101	08/23/21	12:00	14.99	9.00	--	NP	5.99	PID: 1.0
MW-101	11/05/21	11:46	14.99	7.97	--	NP	7.02	
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^	5.67	Measurement error. See note^.
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-104	03/01/21	12:30	14.08	8.12	--	NP	5.96	--
MW-104	06/22/21	9:23	14.08	8.47	--	NP	5.61	--
MW-104	08/23/21	11:57	14.08	8.41	--	NP	5.67	--
MW-104	11/05/21	11:47	14.08	7.10	--	NP	6.98	--
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	--

**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	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	--
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-108	03/01/21	12:37	12.40	5.54	--	NP	6.86	--
MW-108	06/22/21	9:49	12.40	5.67	--	NP	6.73	--
MW-108	08/23/21	12:00	12.40	5.70	--	NP	6.70	--
MW-108	11/05/21	11:37	12.40	5.10	--	NP	7.30	--
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	--

**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	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	--
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-109	03/01/21	12:40	13.53	6.56	--	NP	6.97	--
MW-109	06/22/21	9:52	13.53	6.85	--	NP	6.68	--
MW-109	08/23/21	--	--	--	--	--	--	Well could not be gauged due to fallen tree
MW-109	11/05/21	--	--	--	--	--	--	Well could not be gauged due to fallen tree
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

**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	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	--
MW-126	11/02/20	11:28	12.40	5.82	--	NP	6.58	--
MW-126	03/01/21	11:52	12.40	4.81	--	NP	7.59	--
MW-126	06/22/21	9:11	12.40	5.65	--	NP	6.75	--
MW-126	08/23/21	11:08	12.40	5.93	--	NP	6.47	--
MW-126	11/05/21	10:53	12.40	4.57	--	NP	7.83	--
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	--



**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-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-129R	03/01/21	11:31	12.92	4.90	--	NP	8.02	--
MW-129R	06/22/21	9:20	12.92	5.41	--	NP	7.51	--
MW-129R	08/23/21	11:28	12.92	5.75	--	NP	7.17	--
MW-129R	11/05/21	11:17	12.92	5.06	--	NP	7.86	PID: 101.9
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	--

**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	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	--
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-13U	03/01/21	12:22	25.60	16.68	--	NP	8.92	--
MW-13U	06/22/21	10:24	25.60	17.14	--	NP	8.46	--
MW-13U	08/23/21	11:00	25.60	17.33	--	NP	8.27	--
MW-13U	11/05/21	10:45	25.60	16.95	--	NP	8.65	--
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

**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	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	--
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-134X	03/01/21	12:15	35.13	25.70	--	NP	9.43	--
MW-134X	06/22/21	10:08	35.13	26.11	--	NP	9.02	--
MW-134X	08/23/21	11:04	35.13	26.42	--	NP	8.71	--
MW-134X	11/5/2021	10:52	35.13	26.13	--	NP	9.00	--
MW-135	10/20/2008	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	--

**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-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-135	03/01/21	12:01	18.13	10.48	--	NP	7.65	--
MW-135	06/22/21	9:12	18.13	11.06	--	NP	7.07	--
MW-135	08/23/21	11:12	18.13	11.14	--	NP	6.99	--
MW-135	11/05/21	11:05	18.13	10.71	--	NP	7.42	--
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	--
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	--

**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	09/29/14	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-136	03/01/21	12:04	15.99	7.95	--	NP	8.04	--
MW-136	06/22/21	8:58	15.99	8.27	--	NP	7.72	PID: 0.1
MW-136	08/23/21	11:09	15.99	8.65	--	NP	7.34	--
MW-136	11/05/21	11:02	15.99	7.84	--	NP	8.15	--
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	--

**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-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-139R	03/01/21	12:37	13.84	6.92	--	NP	6.92	--
MW-139R	06/22/21	9:29	13.84	7.12	--	NP	6.72	--
MW-139R	08/23/21	12:06	13.84	7.12	--	NP	6.72	--
MW-139R	11/05/21	11:42	13.84	7.43	--	NP	6.41	--
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	08/03/09	8:45	11.94	4.69	--	NP	7.25	--
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-143	03/01/21	11:49	11.94	3.30	--	NP	8.64	--
MW-143	06/22/21	9:09	11.94	5.40	--	NP	6.54	PID: 1.1
MW-143	08/23/21	11:10	11.94	5.49	--	NP	6.45	PID: 1.0
MW-143	11/05/21	10:55	11.94	4.49	--	NP	7.45	--
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	--

**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	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 anomaly
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	--
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-147	03/01/21	12:14	11.02	5.60	--	NP	5.42	--
MW-147	06/22/21	8:53	11.02	5.93	--	NP	5.09	--
MW-147	08/23/21	11:42	11.02	5.79	--	NP	5.23	--
MW-147	11/05/21	11:56	11.02	3.47	--	NP	7.55	--
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	--



**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-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-149R	03/01/21	12:06	12.18	6.57	--	NP	5.61	--
MW-149R	06/22/21	8:43	12.18	7.41	--	NP	4.77	--
MW-149R	08/23/21	11:35	12.18	7.24	--	NP	4.94	--
MW-149R	11/05/21	12:00	12.18	5.58	--	NP	6.60	--
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	--
MW-150	06/22/15	15:07	12.36	6.99	--	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-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-150	03/01/21	12:03	12.36	7.54	--	NP	4.82	--
MW-150	06/22/21	8:36	12.36	7.13	--	NP	5.23	--
MW-150	08/23/21	11:29	12.36	7.04	--	NP	5.32	--
MW-150	11/05/21	12:04	12.36	5.70	--	NP	6.66	--
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-151	03/01/21	12:12	11.05	5.13	--	NP	5.92	Not part of the monitoring network
MW-151	06/22/21	8:50	11.05	5.79	--	NP	5.26	Not part of the monitoring network
MW-151	08/23/21	11:25	11.05	5.69	--	--	5.36	Not part of the monitoring network
MW-151	11/05/21	12:07	11.05	3.95	--	NP	7.10	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	--

**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	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	--
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-20R	03/01/21	12:27	12.17	6.64	--	NP	5.53	--
MW-20R	06/22/21	9:21	12.17	6.96	--	NP	5.21	PID: 9.3
MW-20R	08/23/21	11:54	12.17	6.89	--	NP	5.28	--
MW-20R	11/05/21	11:49	12.17	5.58	--	NP	6.59	--
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	--

**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-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-203	03/01/21	12:20	31.15	21.97	--	NP	9.18	--
MW-203	06/22/21	10:17	31.15	22.44	--	NP	8.71	--
MW-203	08/23/21	11:02	31.15	22.61	--	NP	8.54	--
MW-203	11/05/21	10:48	31.15	22.35	--	NP	8.80	--
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	--
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	--

**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	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-500	03/01/21	11:59	16.64	3.78	--	NP	12.86	--
MW-500	06/22/21	9:16	16.64	5.89	--	NP	10.75	--
MW-500	08/23/21	11:22	16.64	6.98	--	NP	9.66	--
MW-500	11/05/21	11:12	16.64	3.05	--	NP	13.59	--
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	--

**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	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	--
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-501	03/01/21	11:56	15.24	4.36	--	NP	10.88	--
MW-501	06/22/21	9:18	15.24	4.82	--	NP	10.42	PID: 0.6
MW-501	08/23/21	11:25	15.24	6.00	--	NP	9.24	--
MW-501	11/05/21	11:15	15.24	4.74	--	NP	10.50	PID: 3.2
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	--

**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-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-502	03/01/21	11:52	13.00	4.86	--	NP	8.14	--
MW-502	06/22/21	8:42	13.00	5.34	--	NP	7.66	PID: 0.2
MW-502	08/23/21	11:52	13.00	5.50	--	NP	7.50	--
MW-502	11/05/21	10:58	13.00	4.87	--	NP	8.13	PID: 0.1
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	--
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	--

**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	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-503	03/01/21	11:51	12.22	4.98	--	NP	7.24	--
MW-503	06/22/21	8:47	12.22	5.24	--	NP	6.98	PID: 0.2
MW-503	08/23/21	11:49	12.22	5.18	--	NP	7.04	--
MW-503	11/05/21	11:48	12.22	4.54	--	NP	7.68	PID: 0.2
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	--
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-504	03/01/21	11:47	13.32	6.44	--	NP	6.88	--
MW-504	06/22/21	9:59	13.32	6.62	--	NP	6.70	--
MW-504	08/23/21	11:45	13.32	6.63	--	NP	6.69	--
MW-504	11/05/21	11:43	13.32	5.93	--	NP	7.39	--
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	--



**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-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-505	03/01/21	11:48	11.42	4.49	--	NP	6.93	--
MW-505	06/22/21	9:55	11.42	4.69	--	NP	6.73	--
MW-505	08/23/21	--	--	--	--	--	--	Well could not be gauged due to wasps
MW-505	11/05/21	11:04	11.42	4.02	--	--	7.40	--
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	--



**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	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	--
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-506	03/01/21	11:45	13.44	6.50	--	NP	6.94	--
MW-506	06/22/21	9:45	13.44	6.69	--	NP	6.75	--
MW-506	08/23/21	11:32	13.44	6.70	--	NP	6.74	--
MW-506	11/05/21	11:24	13.44	6.00	--	NP	7.44	--
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	--

**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-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-507	03/01/21	11:43	13.60	6.67	--	NP	6.93	--
MW-507	06/22/21	9:43	13.60	6.85	--	NP	6.75	--
MW-507	08/23/21	11:56	13.60	6.86	--	NP	6.74	--
MW-507	11/05/21	11:27	13.60	6.10	--	NP	7.50	--
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	--
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	--

**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	06/22/20	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-509	03/01/21	11:41	10.28	3.37	--	NP	6.91	--
MW-509	06/22/21	9:49	10.28	3.57	--	NP	6.71	--
MW-509	08/23/21	12:06	10.28	5.56	--	NP	4.72	--
MW-509	11/05/21	11:37	10.28	2.88	--	NP	7.40	--
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-511	03/01/21	12:25	15.20	7.51	--	NP	7.69	--
MW-511	06/22/21	10:13	15.20	8.00	--	NP	7.20	--
MW-511	08/23/21	10:57	15.20	8.13	--	NP	7.07	--
MW-511	11/05/21	11:13	15.20	7.39	--	NP	7.81	--
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-512	03/01/21	12:31	13.19	6.40	--	NP	6.79	--
MW-512	06/22/21	10:16	13.19	6.55	--	NP	6.64	PID: 0.6
MW-512	08/23/21	12:19	13.19	6.55	--	NP	6.64	--
MW-512	11/05/21	11:19	13.19	5.88	--	NP	7.31	--
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	--

**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	12/13/12	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	--
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-513	03/01/21	11:34	11.09	4.22	--	NP	6.87	--
MW-513	06/22/21	10:06	11.09	4.43	--	NP	6.66	--
MW-513	08/23/21	12:17	11.09	4.40	--	NP	6.69	--
MW-513	11/05/21	11:26	11.09	3.74	--		7.35	--
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	--

**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-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-514	03/01/21	11:28	11.39	4.52	--	NP	6.87	--
MW-514	06/22/21	10:08	11.39	4.72	--	NP	6.67	--
MW-514	08/23/21	12:15	11.39	4.71	--	NP	6.68	--
MW-514	11/05/21	11:22	11.39	4.03	--	NP	7.36	PID: 0.1
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	--
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	--

**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	03/01/21	11:36	11.60	4.72	--	NP	6.88	--
MW-515	06/22/21	10:00	11.60	4.93	--	NP	6.67	--
MW-515	08/23/21	12:08	11.60	4.91	--	NP	6.69	--
MW-515	11/05/21	11:34	11.60	4.23	--	NP	7.37	--
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-516	03/01/21	11:38	11.25	4.37	--	NP	6.88	--
MW-516	06/22/21	10:02	11.25	4.59	--	NP	6.66	--
MW-516	08/23/21	12:10	11.25	4.57	--	NP	6.68	--
MW-516	11/05/21	11:31	11.25	3.90	--	NP	7.35	--
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	--



**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	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	--
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-517	03/01/21	11:40	12.00	5.14	--	NP	6.86	--
MW-517	06/22/21	10:04	12.00	5.33	--	NP	6.67	--
MW-517	08/23/21	12:12	12.00	5.32	--	NP	6.68	--
MW-517	11/05/21	11:28	12.00	4.64	--	NP	7.36	--
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	--



**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-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-518	03/01/21	12:35	14.60	8.37	--	NP	6.23	--
MW-518	06/22/21	9:27	14.60	8.53	--	NP	6.07	--
MW-518	08/23/21	12:03	14.60	8.52	--	NP	6.08	--
MW-518	11/05/21	11:44	14.60	7.58	--	NP	7.02	--
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	--
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	--

**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	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-519	03/01/21	11:49	12.60	6.96	--	NP	5.64	--
MW-519	06/22/21	9:06	12.60	7.14	--	NP	5.46	--
MW-519	08/23/21	11:17	12.60	7.00	--	NP	5.60	--
MW-519	11/05/21	10:49	12.60	5.93	--	NP	6.67	--
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	--
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-520	03/01/21	12:26	13.31	7.66	--	NP	5.65	--
MW-520	06/22/21	9:04	13.31	7.84	--	NP	5.47	--

**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-520	08/23/21	11:19	13.31	7.67	--	NP	5.64	--
MW-520	11/05/21	11:00	13.31	6.63	--	NP	6.68	--
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-521	03/01/21	11:24	12.18	6.57	--	NP	5.61	--
MW-521	06/22/21	9:02	12.18	6.73	--	NP	5.45	--
MW-521	08/23/21	11:22	12.18	6.58	--	NP	5.60	--
MW-521	11/05/21	10:58	12.18	5.51	--	NP	6.67	--
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	--

**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	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	--
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-522	03/01/21	12:21	13.82	8.23	--	NP	5.59	--
MW-522	06/22/21	9:00	13.82	8.40	--	NP	5.42	--
MW-522	08/23/21	11:52	13.82	8.26	--	NP	5.56	--
MW-522	11/05/21	11:51	13.82	7.14	--	NP	6.68	--
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	--

**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-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-523	03/01/21	12:17	13.53	7.91	--	NP	5.62	--
MW-523	06/22/21	8:55	13.53	8.10	--	NP	5.43	--
MW-523	08/23/21	11:46	13.53	7.98	--	NP	5.55	--
MW-523	11/05/21	11:54	13.53	6.85	--	NP	6.68	--
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	--
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	--

**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	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-524	03/01/21	12:09	13.16	7.58	--	NP	5.58	--
MW-524	06/22/21	8:48	13.16	7.92	--	NP	5.24	--
MW-524	08/23/21	11:39	13.16	7.29	--	NP	5.87	--
MW-524	11/05/21	11:58	13.16	6.23	--	NP	6.93	--
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-525	03/01/21	11:43	12.62	6.26	--	NP	6.36	--
MW-525	06/22/21	9:16	12.62	6.53	--	NP	6.09	--
MW-525	08/23/21	11:00	12.62	6.41	--	NP	6.21	--
MW-525	11/05/21	11:06	12.62	5.50	--	NP	7.12	--
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	--

**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	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	--
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-526	03/01/21	12:29	12.90	4.84	--	NP	8.06	--
MW-526	06/22/21	8:35	12.90	5.28	--	NP	7.62	PID: 0.3
MW-526	08/23/21	12:20	12.90	5.66	--	NP	7.24	--
MW-526	11/05/21	11:17	12.90	4.66	--	NP	8.24	--
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-527	03/01/21	12:10	19.09	7.39	--	NP	11.70	--
MW-527	06/22/21	9:07	19.09	9.72	--	NP	9.37	--
MW-527	08/23/21	11:18	19.09	10.29	--	NP	8.80	PID: 1.0
MW-527	11/05/21	11:09	19.09	7.75	--	NP	11.34	PID: 2.8
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	--



**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-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-528	03/01/21	12:07	19.74	8.70	--	NP	11.04	--
MW-528	06/22/21	8:54	19.74	10.50	--	NP	9.24	--
MW-528	08/23/21	11:15	19.74	11.11	--	NP	8.63	--
MW-528	11/05/21	11:05	19.74	8.67	--	NP	11.07	--
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	--
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-530	03/01/21	12:47	12.73	6.67	--	NP	6.06	--
MW-530	06/22/21	9:41	12.73	6.84	--	NP	5.89	--
MW-530	08/23/21	11:58	12.73	6.73	--	NP	6.00	--
MW-530	11/05/21	11:36	12.73	5.92	--	NP	6.81	--
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	--



**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-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-531	03/01/21	12:56	13.26	7.63	--	NP	5.63	--
MW-531	06/22/21	9:14	13.26	7.79	--	NP	5.47	--
MW-531	08/23/21	11:14	13.26	7.62	--	NP	5.64	--
MW-531	11/05/21	11:03	13.26	6.56	--	NP	6.70	--
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-532	03/01/21	12:53	13.38	7.24	--	NP	6.14	--
MW-532	06/22/21	9:18	13.38	7.45	--	NP	5.93	--
MW-532	08/23/21	11:03	13.38	7.34	--	NP	6.04	--
MW-532	11/05/21	11:09	13.38	6.18	--	NP	7.20	--
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-533	03/01/21	12:39	11.79	4.94	--	NP	6.85	--
MW-533	06/22/21	9:35	11.79	5.10	--	NP	6.69	--
MW-533	08/23/21	11:42	11.79	5.10	--	NP	6.69	--

**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-533	11/05/21	11:40	11.79	4.43	--	NP	7.36	--
MW-534	03/19/18	12:37	10.28	3.63	--	NP	6.65	--
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-534	03/01/21	11:37	10.28	3.39	--	NP	6.89	--
MW-534	06/22/21	9:33	10.28	3.52	--	NP	6.76	--
MW-534	08/23/21	11:37	10.28	3.46	--	NP	6.82	--
MW-534	11/05/21	11:30	10.28	3.06	--	NP	7.22	--
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	--
MW-535	03/01/21	12:43	11.55	4.79	--	NP	6.76	--
MW-535	06/22/21	9:37	11.55	4.93	--	NP	6.62	--
MW-535	08/23/21	11:40	11.55	4.90	--	NP	6.65	--
MW-535	11/05/21	11:32	11.55	4.19	--	NP	7.36	--
<b>Piezometers</b>								
P-1 <sup>S</sup>	08/03/09	10:23	16.47	7.80	--	NP	8.67	--
P-1 <sup>S</sup>	08/17/09	9:43	16.47	6.60	--	NP	9.87	--
P-1 <sup>S</sup>	10/29/09	9:32	16.47	4.37	--	NP	12.10	--
P-1 <sup>S</sup>	01/18/10	13:31	16.47	1.26	--	NP	15.21	--
P-1 <sup>S</sup>	04/19/10	15:46	16.47	3.21	--	NP	13.26	--
P-1 <sup>S</sup>	07/19/10	8:02	16.47	4.65	--	NP	11.82	--
P-1 <sup>S</sup>	10/25/10	14:26	16.47	4.61	--	NP	11.86	--
P-1 <sup>S</sup>	03/21/11	12:46	16.47	2.16	--	NP	14.31	--
P-1 <sup>S</sup>	06/14/11	11:08	16.47	3.98	--	NP	12.49	--
P-1 <sup>S</sup>	09/26/11	11:27	16.47	6.76	--	NP	9.71	--
P-1 <sup>S</sup>	12/12/11	12:49	16.47	3.87	--	NP	12.60	--
P-1 <sup>S</sup>	03/27/12	14:30	16.47	2.55	--	NP	13.92	--
P-1 <sup>S</sup>	06/27/12	17:43	16.47	3.64	--	NP	12.83	--
P-1 <sup>S</sup>	09/25/12	8:35	16.47	6.45	--	NP	10.02	--
P-1 <sup>S</sup>	12/13/12	10:24	16.47	1.95	--	NP	14.52	--
P-1 <sup>S</sup>	03/25/13	10:45	16.47	2.78	--	NP	13.69	--
P-1 <sup>S</sup>	06/24/13	12:10	16.47	4.84	--	NP	11.63	--
P-1 <sup>S</sup>	09/23/13	14:07	16.47	6.02	--	NP	10.45	--
P-1 <sup>S</sup>	12/16/13	10:41	16.47	4.23	--	NP	12.24	--
P-1 <sup>S</sup>	03/26/14	8:36	16.47	2.42	--	NP	14.05	--
P-1 <sup>S</sup>	06/16/14	13:55	16.47	4.60	--	NP	11.87	--
P-1 <sup>S</sup>	09/29/14	15:57	16.47	7.02	--	NP	9.45	--
P-1 <sup>S</sup>	12/08/14	12:56	16.47	2.81	--	NP	13.66	--
P-1 <sup>S</sup>	03/23/15	14:26	16.47	2.93	--	NP	13.54	--
P-1 <sup>S</sup>	06/22/15	15:06	16.47	5.23	--	NP	11.24	--
P-1 <sup>S</sup>	10/27/16	9:55	16.47	2.06	--	NP	14.41	--
P-1 <sup>S</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network

**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-1 <sup>S</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-1 <sup>S</sup>	06/26/18	11:05	16.47	5.23	--	NP	11.24	Not part of the monitoring network
P-2 <sup>D</sup>	08/03/09	10:21	15.00	7.39	--	NP	7.61	--
P-2 <sup>D</sup>	08/17/09	9:46	15.00	7.46	--	NP	7.54	--
P-2 <sup>D</sup>	10/29/09	8:57	15.00	6.38	--	NP	8.62	--
P-2 <sup>D</sup>	01/18/10	13:28	15.00	6.30	--	NP	8.70	--
P-2 <sup>D</sup>	04/19/10	15:47	15.00	6.68	--	NP	8.32	--
P-2 <sup>D</sup>	07/19/10	7:46	15.00	7.02	--	NP	7.98	--
P-2 <sup>D</sup>	10/25/10	14:29	15.00	6.65	--	NP	8.35	--
P-2 <sup>D</sup>	03/21/11	12:49	15.00	6.26	--	NP	8.74	--
P-2 <sup>D</sup>	06/14/11	11:10	15.00	7.01	--	NP	7.99	--
P-2 <sup>D</sup>	09/26/11	11:15	15.00	7.01	--	NP	7.99	--
P-2 <sup>D</sup>	12/12/11	12:52	15.00	6.79	--	NP	8.21	--
P-2 <sup>D</sup>	03/27/12	14:31	15.00	6.35	--	NP	8.65	--
P-2 <sup>D</sup>	06/27/12	17:48	15.00	6.63	--	NP	8.37	--
P-2 <sup>D</sup>	09/25/12	8:12	15.00	7.14	--	NP	7.86	--
P-2 <sup>D</sup>	12/13/12	10:26	15.00	6.19	--	NP	8.81	--
P-2 <sup>D</sup>	03/25/13	10:49	15.00	6.48	--	NP	8.52	--
P-2 <sup>D</sup>	06/24/13	12:15	15.00	6.81	--	NP	8.19	--
P-2 <sup>D</sup>	09/23/13	14:10	15.00	6.84	--	NP	8.16	--
P-2 <sup>D</sup>	12/16/13	10:48	15.00	6.81	--	NP	8.19	--
P-2 <sup>D</sup>	03/26/14	8:38	15.00	7.32	--	NP	7.68	--
P-2 <sup>D</sup>	06/16/14	13:52	15.00	6.86	--	NP	8.14	--
P-2 <sup>D</sup>	09/29/14	15:45	15.00	6.79	--	NP	8.21	--
P-2 <sup>D</sup>	12/08/14	12:55	15.00	6.31	--	NP	8.69	--
P-2 <sup>D</sup>	03/23/15	14:28	15.00	6.26	--	NP	8.74	--
P-2 <sup>D</sup>	06/22/15	15:03	15.00	7.00	--	NP	8.00	--
P-2 <sup>D</sup>	10/27/16	9:52	15.00	6.25	--	NP	8.75	--
P-2 <sup>D</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-2 <sup>D</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-2 <sup>D</sup>	06/26/18	10:40	15.00	6.90	--	NP	8.1	Not part of the monitoring network
P-3 <sup>S</sup>	08/03/09	10:21	14.84	4.47	--	NP	10.37	--
P-3 <sup>S</sup>	08/17/09	9:48	14.84	4.77	--	NP	10.07	--
P-3 <sup>S</sup>	10/29/09	8:59	14.84	3.35	--	NP	11.49	--
P-3 <sup>S</sup>	01/18/10	13:25	14.84	0.81	--	NP	14.03	--
P-3 <sup>S</sup>	04/19/10	15:48	14.84	2.36	--	NP	12.48	--
P-3 <sup>S</sup>	07/19/10	7:48	14.84	3.72	--	NP	11.12	--
P-3 <sup>S</sup>	10/25/10	14:31	14.84	4.04	--	NP	10.80	--
P-3 <sup>S</sup>	03/21/11	12:49	14.84	1.19	--	NP	13.65	--
P-3 <sup>S</sup>	06/14/11	11:11	14.84	3.05	--	NP	11.79	--
P-3 <sup>S</sup>	09/26/11	11:17	14.84	5.18	--	NP	9.66	--
P-3 <sup>S</sup>	12/12/11	12:54	14.84	2.95	--	NP	11.89	--
P-3 <sup>S</sup>	03/27/12	14:32	14.84	1.63	--	NP	13.21	--
P-3 <sup>S</sup>	06/27/12	17:54	14.84	3.11	--	NP	11.73	--
P-3 <sup>S</sup>	09/25/12	8:14	14.84	4.80	--	NP	10.04	--
P-3 <sup>S</sup>	12/13/12	10:27	14.84	1.42	--	NP	13.42	--
P-3 <sup>S</sup>	03/25/13	10:51	14.84	2.16	--	NP	12.68	--
P-3 <sup>S</sup>	06/24/13	12:16	14.84	4.02	--	NP	10.82	--
P-3 <sup>S</sup>	09/23/13	14:12	14.84	4.49	--	NP	10.35	--
P-3 <sup>S</sup>	12/16/13	10:47	14.84	3.55	--	NP	11.29	--
P-3 <sup>S</sup>	03/26/14	8:39	14.84	1.48	--	NP	13.36	--
P-3 <sup>S</sup>	06/16/14	13:54	14.84	3.80	--	NP	11.04	--
P-3 <sup>S</sup>	09/29/14	15:43	14.84	4.80	--	NP	10.04	--
P-3 <sup>S</sup>	12/08/14	13:00	14.84	1.90	--	NP	12.94	--
P-3 <sup>S</sup>	03/23/15	14:29	14.84	2.10	--	NP	12.74	--
P-3 <sup>S</sup>	06/22/15	15:01	14.84	4.24	--	NP	10.60	--
P-3 <sup>S</sup>	10/27/16	9:50	14.84	1.15	--	NP	13.69	--
P-3 <sup>S</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-3 <sup>S</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-3 <sup>S</sup>	06/26/18	10:46	14.84	4.14	--	NP	10.7	Not part of the monitoring network
P-4 <sup>D</sup>	08/03/09	10:19	16.38	8.64	--	NP	7.74	--

**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-4 <sup>D</sup>	08/17/09	9:49	16.38	8.75	--	NP	7.63	--
P-4 <sup>D</sup>	10/29/09	9:08	16.38	7.64	--	NP	8.74	--
P-4 <sup>D</sup>	01/18/10	13:21	16.38	7.56	--	NP	8.82	--
P-4 <sup>D</sup>	04/19/10	15:49	16.38	7.92	--	NP	8.46	--
P-4 <sup>D</sup>	07/19/10	7:50	16.38	8.28	--	NP	8.10	--
P-4 <sup>D</sup>	10/25/10	14:34	16.38	7.93	--	NP	8.45	--
P-4 <sup>D</sup>	03/21/11	12:52	16.38	7.51	--	NP	8.87	--
P-4 <sup>D</sup>	06/14/11	11:14	16.38	8.23	--	NP	8.15	--
P-4 <sup>D</sup>	09/26/11	11:20	16.38	8.41	--	NP	7.97	--
P-4 <sup>D</sup>	12/12/11	13:01	16.38	8.00	--	NP	8.38	--
P-4 <sup>D</sup>	03/27/12	14:34	16.38	7.60	--	NP	8.78	--
P-4 <sup>D</sup>	06/27/12	17:30	16.38	7.92	--	NP	8.46	--
P-4 <sup>D</sup>	09/25/12	8:19	16.38	8.37	--	NP	8.01	--
P-4 <sup>D</sup>	12/13/12	10:30	16.38	7.45	--	NP	8.93	--
P-4 <sup>D</sup>	03/25/13	10:54	16.38	7.79	--	NP	8.59	--
P-4 <sup>D</sup>	06/24/13	12:22	16.38	8.00	--	NP	8.38	--
P-4 <sup>D</sup>	09/23/13	14:03	16.38	8.11	--	NP	8.27	--
P-4 <sup>D</sup>	12/16/13	10:49	16.38	8.05	--	NP	8.33	--
P-4 <sup>D</sup>	03/26/14	8:47	16.38	7.56	--	NP	8.82	--
P-4 <sup>D</sup>	06/16/14	13:45	16.38	8.01	--	NP	8.37	--
P-4 <sup>D</sup>	09/29/14	15:35	16.38	8.03	--	NP	8.35	--
P-4 <sup>D</sup>	12/08/14	12:58	16.38	7.53	--	NP	8.85	--
P-4 <sup>D</sup>	03/23/15	14:30	16.38	7.82	--	NP	8.56	--
P-4 <sup>D</sup>	06/22/15	14:56	16.38	8.28	--	NP	8.10	--
P-4 <sup>D</sup>	10/27/16	9:48	16.38	7.43	--	NP	8.95	--
P-4 <sup>D</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-4 <sup>D</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-4 <sup>D</sup>	06/26/18	10:28	16.38	8.19	--	NP	8.19	Not part of the monitoring network
P-5 <sup>S</sup>	08/03/09	10:19	16.85	6.47	--	NP	10.38	--
P-5 <sup>S</sup>	08/17/09	9:50	16.85	6.78	--	NP	10.07	--
P-5 <sup>S</sup>	10/29/09	9:10	16.85	5.85	--	NP	11.00	--
P-5 <sup>S</sup>	01/18/10	13:18	16.85	2.76	--	NP	14.09	--
P-5 <sup>S</sup>	04/19/10	15:50	16.85	4.31	--	NP	12.54	--
P-5 <sup>S</sup>	07/19/10	7:54	16.85	5.71	--	NP	11.14	--
P-5 <sup>S</sup>	10/25/10	14:33	16.85	6.03	--	NP	10.82	--
P-5 <sup>S</sup>	03/21/11	12:53	16.85	3.17	--	NP	13.68	--
P-5 <sup>S</sup>	06/14/11	11:15	16.85	5.00	--	NP	11.85	--
P-5 <sup>S</sup>	09/26/11	11:21	16.85	7.13	--	NP	9.72	--
P-5 <sup>S</sup>	12/12/11	13:02	16.85	4.93	--	NP	11.92	--
P-5 <sup>S</sup>	03/27/12	14:35	16.85	3.60	--	NP	13.25	--
P-5 <sup>S</sup>	06/27/12	17:32	16.85	5.07	--	NP	11.78	--
P-5 <sup>S</sup>	09/25/12	8:21	16.85	6.78	--	NP	10.07	--
P-5 <sup>S</sup>	12/13/12	10:32	16.85	3.01	--	NP	13.84	--
P-5 <sup>S</sup>	03/25/13	10:52	16.85	4.00	--	NP	12.85	--
P-5 <sup>S</sup>	06/24/13	12:23	16.85	5.95	--	NP	10.90	--
P-5 <sup>S</sup>	09/23/13	14:01	16.85	6.46	--	NP	10.39	--
P-5 <sup>S</sup>	12/16/13	10:48	16.85	5.46	--	NP	11.39	--
P-5 <sup>S</sup>	03/26/14	8:48	16.85	3.31	--	NP	13.54	--
P-5 <sup>S</sup>	06/16/14	13:41	16.85	5.68	--	NP	11.17	--
P-5 <sup>S</sup>	09/29/14	15:37	16.85	6.79	--	NP	10.06	--
P-5 <sup>S</sup>	12/08/14	13:02	16.85	3.67	--	NP	13.18	--
P-5 <sup>S</sup>	03/23/15	14:32	16.85	3.88	--	NP	12.97	--
P-5 <sup>S</sup>	06/22/15	15:04	16.85	6.17	--	NP	10.68	--
P-5 <sup>S</sup>	10/27/16	9:46	16.85	3.20	--	NP	13.65	--
P-5 <sup>S</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-5 <sup>S</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-5 <sup>S</sup>	06/26/18	10:38	16.85	6.10	--	NP	10.75	Not part of the monitoring network
P-6 <sup>S</sup>	08/03/09	10:16	17.67	9.90	--	NP	7.77	--
P-6 <sup>S</sup>	08/17/09	9:53	17.67	6.31	--	NP	11.36	--
P-6 <sup>S</sup>	10/29/09	9:12	17.67	4.92	--	NP	12.75	--
P-6 <sup>S</sup>	01/18/10	13:10	17.67	3.09	--	NP	14.58	--

**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-6 <sup>S</sup>	04/19/10	15:52	17.67	4.63	--	NP	13.04	--
P-6 <sup>S</sup>	07/19/10	7:59	17.67	5.21	--	NP	12.46	--
P-6 <sup>S</sup>	10/25/10	14:29	17.67	4.81	--	NP	12.86	--
P-6 <sup>S</sup>	03/21/11	12:54	17.67	3.41	--	NP	14.26	--
P-6 <sup>S</sup>	06/14/11	11:20	17.67	5.05	--	NP	12.62	--
P-6 <sup>S</sup>	09/26/11	11:25	17.67	6.40	--	NP	11.27	--
P-6 <sup>S</sup>	12/12/11	13:05	17.67	5.07	--	NP	12.60	--
P-6 <sup>S</sup>	03/27/12	14:39	17.67	3.90	--	NP	13.77	--
P-6 <sup>S</sup>	06/27/12	17:39	17.67	4.64	--	NP	13.03	--
P-6 <sup>S</sup>	09/25/12	8:17	17.67	5.94	--	NP	11.73	--
P-6 <sup>S</sup>	12/13/12	10:35	17.67	3.71	--	NP	13.96	--
P-6 <sup>S</sup>	03/25/13	10:45	17.67	4.60	--	NP	13.07	--
P-6 <sup>S</sup>	06/24/13	12:24	17.67	5.22	--	NP	12.45	--
P-6 <sup>S</sup>	09/23/13	13:58	17.67	5.23	--	NP	12.44	--
P-6 <sup>S</sup>	12/16/13	10:56	17.67	4.91	--	NP	12.76	--
P-6 <sup>S</sup>	03/26/14	8:55	17.67	3.74	--	NP	13.93	--
P-6 <sup>S</sup>	06/16/14	13:50	17.67	5.16	--	NP	12.51	--
P-6 <sup>S</sup>	09/29/14	15:59	17.67	6.77	--	NP	10.90	--
P-6 <sup>S</sup>	12/08/14	13:09	17.67	4.05	--	NP	13.62	--
P-6 <sup>S</sup>	03/23/15	14:35	17.67	3.97	--	NP	13.70	--
P-6 <sup>S</sup>	06/22/15	14:50	17.67	5.38	--	NP	12.29	--
P-6 <sup>S</sup>	10/27/16	9:42	17.67	3.55	--	NP	14.12	--
P-6 <sup>S</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-6 <sup>S</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-6 <sup>S</sup>	06/26/18	10:37	17.67	5.41	--	NP	12.26	Not part of the monitoring network
P-7 <sup>D</sup>	08/03/09	10:17	17.63	9.72	--	NP	7.91	--
P-7 <sup>D</sup>	08/17/09	9:52	17.63	9.80	--	NP	7.83	--
P-7 <sup>D</sup>	10/29/09	8:55	17.63	6.15	--	NP	11.48	--
P-7 <sup>D</sup>	01/18/10	13:14	17.63	8.56	--	NP	9.07	--
P-7 <sup>D</sup>	04/19/10	15:51	17.63	8.94	--	NP	8.69	--
P-7 <sup>D</sup>	07/19/10	8:00	17.63	7.36	--	NP	10.27	--
P-7 <sup>D</sup>	10/25/10	14:31	17.63	8.97	--	NP	8.66	--
P-7 <sup>D</sup>	03/21/11	12:52	17.63	8.62	--	NP	9.01	--
P-7 <sup>D</sup>	06/14/11	11:18	17.63	9.24	--	NP	8.39	--
P-7 <sup>D</sup>	09/26/11	11:23	17.63	9.55	--	NP	8.08	--
P-7 <sup>D</sup>	12/12/11	13:04	17.63	9.04	--	NP	8.59	--
P-7 <sup>D</sup>	03/27/12	14:36	17.63	8.66	--	NP	8.97	--
P-7 <sup>D</sup>	06/27/12	17:37	17.63	8.94	--	NP	8.69	--
P-7 <sup>D</sup>	09/25/12	8:19	17.63	9.49	--	NP	8.14	--
P-7 <sup>D</sup>	12/13/12	10:37	17.63	8.49	--	NP	9.14	--
P-7 <sup>D</sup>	03/25/13	10:47	17.63	8.81	--	NP	8.82	--
P-7 <sup>D</sup>	06/24/13	12:26	17.63	9.13	--	NP	8.50	--
P-7 <sup>D</sup>	09/23/13	14:00	17.63	9.16	--	NP	8.47	--
P-7 <sup>D</sup>	12/16/13	10:57	17.63	9.11	--	NP	8.52	--
P-7 <sup>D</sup>	03/26/14	8:50	17.63	8.66	--	NP	8.97	--
P-7 <sup>D</sup>	06/16/14	13:49	17.63	9.07	--	NP	8.56	--
P-7 <sup>D</sup>	09/29/14	15:59	17.63	9.12	--	NP	8.51	--
P-7 <sup>D</sup>	12/08/14	13:06	17.63	8.60	--	NP	9.03	--
P-7 <sup>D</sup>	03/23/15	14:34	17.63	8.82	--	NP	8.81	--
P-7 <sup>D</sup>	06/22/15	14:51	17.63	9.29	--	NP	8.34	--
P-7 <sup>D</sup>	10/27/16	9:44	17.63	8.56	--	NP	9.07	--
P-7 <sup>D</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-7 <sup>D</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-7 <sup>D</sup>	06/26/18	10:33	17.63	9.00	--	NP	8.63	Not part of the monitoring network
P-8 <sup>D</sup>	08/03/09	10:24	16.07	8.52	--	NP	7.55	--
P-8 <sup>D</sup>	08/17/09	9:41	16.07	8.92	--	NP	7.15	--
P-8 <sup>D</sup>	10/29/09	8:53	16.07	8.03	--	NP	8.04	--
P-8 <sup>D</sup>	01/18/10	13:33	16.07	7.47	--	NP	8.60	--
P-8 <sup>D</sup>	04/19/10	15:45	16.07	7.80	--	NP	8.27	--
P-8 <sup>D</sup>	07/19/10	8:03	16.07	8.12	--	NP	7.95	--
P-8 <sup>D</sup>	10/25/10	14:24	16.07	7.80	--	NP	8.27	--

**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
P-8 <sup>D</sup>	03/21/11	12:45	16.07	7.49	--	NP	8.58	--
P-8 <sup>D</sup>	06/14/11	11:05	16.07	8.16	--	NP	7.91	--
P-8 <sup>D</sup>	09/26/11	11:20	16.07	8.34	--	NP	7.73	--
P-8 <sup>D</sup>	12/12/11	12:48	16.07	7.94	--	NP	8.13	--
P-8 <sup>D</sup>	03/27/12	14:29	16.07	7.49	--	NP	8.58	--
P-8 <sup>D</sup>	06/27/12	17:41	16.07	7.78	--	NP	8.29	--
P-8 <sup>D</sup>	09/25/12	8:10	16.07	8.29	--	NP	7.78	--
P-8 <sup>D</sup>	12/13/12	10:21	16.07	7.34	--	NP	8.73	--
P-8 <sup>D</sup>	03/25/13	10:49	16.07	7.60	--	NP	8.47	--
P-8 <sup>D</sup>	06/24/13	12:12	16.07	7.89	--	NP	8.18	--
P-8 <sup>D</sup>	09/23/13	14:05	16.07	8.01	--	NP	8.06	--
P-8 <sup>D</sup>	12/16/13	10:40	16.07	7.93	--	NP	8.14	--
P-8 <sup>D</sup>	03/26/14	8:35	16.07	7.41	--	NP	8.66	--
P-8 <sup>D</sup>	06/16/14	13:53	16.07	7.95	--	NP	8.12	--
P-8 <sup>D</sup>	09/29/14	15:50	16.07	7.94	--	NP	8.13	--
P-8 <sup>D</sup>	12/08/14	12:55	16.07	7.45	--	NP	8.62	--
P-8 <sup>D</sup>	03/23/14	14:33	16.07	7.60	--	NP	8.47	--
P-8 <sup>D</sup>	06/22/15	15:09	16.07	8.18	--	NP	7.89	--
P-8 <sup>D</sup>	10/27/16	9:58	16.07	7.41	--	NP	8.66	--
P-8 <sup>D</sup>	07/24/17	--	--	--	--	--	--	Not part of the monitoring network
P-8 <sup>D</sup>	03/19/18	--	--	--	--	--	--	Not part of the monitoring network
P-8 <sup>D</sup>	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
<b>Staff Gauges</b>								
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 <sup>3</sup>	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	--

**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	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	--
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 <sup>3</sup>	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	--

**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	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		-- <sup>4</sup>	--	NP	-- <sup>4</sup>	--
D-3	06/27/12	18:52	8.70 <sup>5</sup>	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	--
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 <sup>2</sup>	06/22/09	10:19	9.39 <sup>3</sup>	2.96	--	NP	6.43	--
D-4 <sup>2</sup>	06/22/09	12:54		2.81	--	NP	6.58	--
D-4 <sup>2</sup>	08/03/09	10:09		2.93	--	NP	6.46	--
D-4 <sup>2</sup>	08/03/09	12:25		2.95	--	NP	6.44	--
D-4 <sup>2</sup>	08/17/09	8:10		2.92	--	NP	6.47	--
D-4 <sup>2</sup>	08/17/09	11:19		2.94	--	NP	6.45	--
D-4 <sup>2</sup>	10/29/09	8:19		2.74	--	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
D-4 <sup>2</sup>	10/29/09	10:34		2.59	--	NP	6.80	--
D-4 <sup>2</sup>	01/18/10	12:55		2.06	--	NP	7.33	--
D-4 <sup>2</sup>	01/18/10	15:00		2.35	--	NP	7.04	--
D-4 <sup>2</sup>	04/19/10	14:33		2.87	--	NP	6.52	--
D-4 <sup>2</sup>	04/19/10	16:39		2.95	--	NP	6.44	--
D-4 <sup>2</sup>	07/19/10	6:19		2.90	--	NP	6.49	--
D-4 <sup>2</sup>	07/19/10	9:34		3.00	--	NP	6.39	--
D-4 <sup>2</sup>	10/25/10	12:45		1.70	--	NP	7.69	--
D-4 <sup>2</sup>	10/25/10	15:36		2.40	--	NP	6.99	--
D-4 <sup>2</sup>	03/21/11	11:48		2.83	--	NP	6.56	--
D-4 <sup>2</sup>	03/21/11	14:15		2.90	--	NP	6.49	--
D-4 <sup>2</sup>	06/14/11	9:00		2.35	--	NP	7.04	--
D-4 <sup>2</sup>	06/14/11	13:12		2.93	--	NP	6.46	--
D-4 <sup>2</sup>	09/26/11	10:00		2.82	--	NP	6.57	--
D-4 <sup>2</sup>	09/26/11	--		3.03	--	NP	6.36	--
D-4 <sup>2</sup>	12/12/11	10:48		2.86	--	NP	6.53	--
D-4 <sup>2</sup>	12/12/11	15:05		2.18	--	NP	7.21	--
D-4 <sup>2</sup>	03/27/12	13:05		2.70	--	NP	6.69	--
D-4 <sup>2</sup>	03/27/12	16:14		3.01	--	NP	6.38	--
D-4 <sup>2</sup>	06/27/12	15:43		3.05	--	NP	6.34	--
D-4 <sup>2</sup>	06/27/12	19:02		3.00	--	NP	6.39	--
D-4 <sup>2</sup>	09/25/12	6:35		3.09	--	NP	6.30	--
D-4 <sup>2</sup>	09/25/12	9:55		3.05	--	NP	6.34	--
D-4 <sup>2</sup>	12/13/12	9:35		2.45	--	NP	6.94	--
D-4 <sup>2</sup>	12/13/12	12:35		2.77	--	NP	6.62	--
D-4 <sup>2</sup>	03/25/13	9:30		2.83	--	NP	6.56	--
D-4 <sup>2</sup>	03/25/13	11:05		3.05	--	NP	6.34	--
D-4 <sup>2</sup>	06/24/13	11:00		2.42	--	NP	6.97	--
D-4 <sup>2</sup>	06/24/13	13:30		3.04	--	NP	6.35	--
D-4 <sup>2</sup>	09/23/13	13:00		2.16	--	NP	7.23	--
D-4 <sup>2</sup>	09/23/13	16:10		3.08	--	NP	6.31	--
D-4 <sup>2</sup>	12/16/13	9:54		3.08	--	NP	6.31	--
D-4 <sup>2</sup>	12/16/13	11:50		3.13	--	NP	6.26	--
D-4 <sup>2</sup>	03/26/14	7:20		1.90	--	NP	7.49	--
D-4 <sup>2</sup>	03/26/14	10:20		2.69	--	NP	6.70	--
D-4 <sup>2</sup>	06/16/14	13:00		3.02	--	NP	6.37	--
D-4 <sup>2</sup>	06/16/14	14:57		3.04	--	NP	6.35	--
D-4 <sup>2</sup>	09/29/14	14:25		2.66	--	NP	6.73	--
D-4 <sup>2</sup>	09/29/14	16:00		2.98	--	NP	6.41	--
D-4 <sup>2</sup>	12/08/14	11:00		2.50	--	NP	6.89	--
D-4 <sup>2</sup>	12/08/14	13:55		3.00	--	NP	6.39	--
D-4 <sup>2</sup>	03/23/15	12:55		2.18	--	NP	7.21	--
D-4 <sup>2</sup>	03/23/15	15:32		2.94	--	NP	6.45	--
D-4 <sup>2</sup>	06/22/15	14:38		3.08	--	NP	6.31	--
D-4 <sup>2</sup>	06/22/15	16:46		3.11	--	NP	6.28	--
D-4 <sup>2</sup>	10/27/16	8:25		2.39	--	NP	7.00	--
D-4 <sup>2</sup>	10/27/16	10:48		2.68	--	NP	6.71	--
D-4 <sup>2</sup>	07/24/17	11:46		2.74	--	NP	6.65	--
D-4 <sup>2</sup>	07/24/17	14:22		2.90	--	NP	6.49	--
D-4 <sup>2</sup>	03/19/18	12:30		2.56	--	NP	6.83	--
D-4 <sup>2</sup>	03/19/18	13:30		2.78	--	NP	6.61	--
D-4 <sup>2</sup>	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 <sup>3</sup>	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	--

**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-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	--

**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	04/20/09	9:20		1.33	--	NP	6.03	--
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

**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
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**Notes:**

amsl= Above Mean Sea Level

LNAPL = Light non-aqueous phase liquid

"-" = Not measured.

NP = Not present

<sup>1</sup> Staff gauge D-1 re-established prior to June 2009 sampling event.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> 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 06/23/09 and there was no indication of LNAPL or LNAPL film. A bailer was used to confirm the measurement on 06/23/09 and there were no signs of LNAPL, sheen or odor present in MW-104.

<sup>S</sup> = Shallow piezometer (installed between 12 and 13 feet below ground surface).

<sup>D</sup> = 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
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	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
LM-2*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	49 UJ	19 U	110 UJ	89 UU	521
LM-2*	06/23/21	6.0 U	NA	NA	NA	0.010 UJ	49 U	19 U	110 U	89 UU	521
LM-2*	08/24/21	3.0 U	NA	NA	NA	0.010 UU	51 U	19 U	110 U	90 UU	521
LM-2*	11/03/21	3.0 U	NA	NA	NA	0.009 UU	49 U	20 J	110 U	100	541
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	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

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
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	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	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
MW-101*	06/29/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-101*	09/27/12	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-101*(Duplicate)	09/27/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-101*	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-101*	03/26/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-101*	06/25/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-101*	09/25/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-101*	12/20/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-101*	03/28/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-101*	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-101*	10/01/14	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-101*	12/10/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-101*	03/25/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-101*	06/25/15	NA	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	100 U	149	619
MW-101*	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-101* (Duplicate)	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-101*	03/22/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	440	489	510
MW-101*	06/28/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-101*	09/18/18	0.5 U	NA	NA	NA	0.008 UU	50 U	140	110 U	220	657
MW-101* (Duplicate)	09/18/18	0.5 U	NA	NA	NA	0.008 UU	47 U	140	100 U	214	663
MW-101*	11/28/18	0.5 U	NA	NA	NA	0.008 UU	45 U	900	100 U	973	766
MW-101*	02/07/19	0.0 U	NA	NA	NA	0.008	46 U	19 U	100 U	83 UU	523
MW-101*	03/20/19	0.0 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-101*	06/18/19	0.5 U	NA	NA	NA	0.008 UU	120	27 J	110 U	202	526
MW-101*	09/18/19	0.2 U	NA	NA	NA	0.008 UU	48 U	650	110 U	729	751
MW-101*	12/12/19	0.2 U	NA	NA	NA	0.008 UU	45 U	470	100 U	543	741
MW-101* (Duplicate)	12/12/19	0.2 U	NA	NA	NA	0.008 UU	45 U	510	100 U	583	744
MW-101*	03/10/20	0.2 U	NA	NA	NA	0.008 UU	46 U	420	100 U	493	735
MW-101* (Duplicate)	03/10/20	0.2 U	NA	NA	NA	0.008 UU	47 U	410	100 U	484	733
MW-101*	06/24/20	0.2 U	NA	NA	NA	0.009 UU	47 U	1200	100 U	1,274	773
MW-101*	09/22/20	0.2 U	NA	NA	NA	0.008 UU	48 U	1800	110 U	1,879	780
MW-101* (Duplicate)	09/22/20	0.2 U	NA	NA	NA	0.008 UU	47 U	1700	110 U	1,779	779
MW-101*	11/06/20	0.2 U	NA	NA	NA	0.009 UU	75 J	1600	110 U	1,730	765
MW-101*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	330	100 UJ	403	722
MW-101* (Duplicate)	03/02/21	0.2 U	NA	NA	NA	0.009 UU	48 UJ	330	110 UJ	409	717
MW-101*	06/24/21	0.3 U	NA	NA	NA	0.009 UJ	70 J	1400	110 U	1,525	763



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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-101*	08/26/21	0.3 U	NA	NA	NA	0.009 UU	66 J	850	110 U	971	744
MW-101* (Duplicate)	08/26/21	0.3 U	NA	NA	NA	0.009 UU	47 J	880	100 U	977	755
MW-101*	11/01/21	0.3 U	NA	NA	NA	0.009 UU	46 U	290	100 U	363	714
MW-101* (Duplicate)	11/01/21	0.3 U	NA	NA	NA	0.009 UU	47 U	570	100 U	644	749
MW-104*	10/22/08	3.89	0.554	11.8	1.00 U	0.008 UU	253 U	728	505 U	1,107	664
MW-104*	12/10/08	3.41	0.50 U	23.5	1.15	0.007 UU	245 U	859	490 U	1,227	678
MW-104*	02/24/09	1.4	NA	NA	NA	0.007 UU	130	460	68 U	624	691
MW-104*	04/23/09	5 U	NA	NA	NA	0.008 UU	180	1,700	70 U	1,915	750
MW-104* (Duplicate)	04/23/09	5 U	NA	NA	NA	0.008 UU	210	1,800	72 U	2,046	746
MW-104*	06/24/09	2.9	NA	NA	NA	0.007 UU	140	740	72 U	916	717
MW-104*	08/19/09	2	NA	NA	NA	0.012 UU	120	310	68 U	464	667
MW-104*	10/27/09	2	NA	NA	NA	0.013 UU	130	510	73 U	677	697
MW-104*	01/19/10	NA	NA	NA	NA	NA	270	2,800	69 U	3,105	756
MW-104*	04/21/10	NA	NA	NA	NA	NA	100	400	83 U	542	692
MW-104* (Duplicate)	04/21/10	NA	NA	NA	NA	NA	100	510	67 U	644	711
MW-104*	07/20/10	NA	NA	NA	NA	NA	200	450	72 U	686	663
MW-104*	10/27/10	1.7	NA	NA	NA	0.047 UU	81	220	67 U	335	664
MW-104*	03/23/11	NA	NA	NA	NA	NA	290	890	68 U	1,214	690
MW-104*	06/15/11	NA	NA	NA	NA	NA	340	1,900	67 U	2,274	728
MW-104* (Duplicate)	06/15/11	NA	NA	NA	NA	NA	350	1,900	67	2,317	722
MW-104*	09/27/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-104*	12/13/11	3.0 U	NA	NA	NA	0.072 UU	38	700	66 U	771	758
MW-104*	03/29/12	NA	NA	NA	NA	NA	440	280	220	940	563
MW-104*	06/28/12	NA	NA	NA	NA	NA	29 U	83	67 U	131	656
MW-104*	09/26/12	NA	NA	NA	NA	NA	33	170	66 U	236	685
MW-104*	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-104*	03/27/13	NA	NA	NA	NA	NA	52 U	310	120 U	396	708
MW-104*	06/26/13	NA	NA	NA	NA	NA	29 U	78	68 U	127	650
MW-104*	09/24/13	NA	NA	NA	NA	NA	30 U	190	70 U	240	711
MW-104* (Duplicate)	09/24/13	NA	NA	NA	NA	NA	44	170	70 U	249	672
MW-104*	12/17/13	0.4	NA	NA	NA	0.008 UU	29 U	120	68 U	169	682
MW-104*	03/26/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-104*	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-104* (Duplicate)	06/17/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-104*	09/30/14	NA	NA	NA	NA	NA	30	50 U	69 U	90	559
MW-104*	12/09/14	1.0 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-104*	03/25/15	NA	NA	NA	NA	NA	30 U	59	69 U	109	628
MW-104*	06/23/15	NA	NA	NA	NA	NA	28 U	64	66 U	111	638
MW-104*	10/24/16	0.5 U	0.5 U	11.0	1.5 U	0.008 UU	46 U	350	100 U	423	725
MW-104*	07/26/17	0.5 U	NA	NA	NA	0.008 UU	45 U	120	100 U	193	653
MW-104*	03/20/18	0.2 U	NA	NA	NA	0.008 UU	46 U	91	100 U	164	631
MW-104*	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-104*	09/17/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-104*	11/27/18	0.5 U	NA	NA	NA	0.008 UU	47 U	36	100 U	110	570
MW-104*	03/19/19	0.0 U	NA	NA	NA	0.008 UU	46 U	400	100 U	473	732
MW-104*	06/20/19	0.5 U	NA	NA	NA	0.008 UU	47 U	64 J	100 U	138	606
MW-104*	09/17/19	0.2 U	NA	NA	NA	0.008 UU	45 U	59 J	100 U	132	601
MW-104*	12/12/19	0.2 U	NA	NA	NA	0.008 UU	280	52 J	130 J	462	522
MW-104*	03/11/20	0.2 U	NA	NA	NA	0.008 UU	47 U	27 J	110 U	106	553
MW-104* (Duplicate)	03/11/20	0.2 U	NA	NA	NA	0.008 UU	46 U	26 J	100 U	99	555
MW-104*	07/01/20	0.2 U	NA	NA	NA	0.028	50 J	190 J	130 J	370	619

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-104*	09/21/20	0.2 U	NA	NA	NA	0.009 UU	110	48 J	100 U	208	547
MW-104*	11/04/20	0.2 U	NA	NA	NA	0.009 UJ	680 J	19 UB	640	1,330	501
MW-104*	03/01/21	0.2 U	NA	NA	NA	0.009 UU	48 U	270	110 U	349	704
MW-104* (Duplicate)	03/01/21	0.2 U	NA	NA	NA	0.009 UU	46 U	290	100 U	363	714
MW-104*	06/23/21	0.3 U	NA	NA	NA	0.009 UU	55 U	210 J	120 U	298	680
MW-104* (Duplicate)	06/23/21	0.3 U	NA	NA	NA	0.012 UBJ	55 U	200 J	120 U	288	676
MW-104*	08/23/21	0.3 U	NA	NA	NA	0.009 UU	49 U	61 J	110 U	141	597
MW-104*	11/02/21	0.3 U	NA	NA	NA	0.009 UU	47 U	150 J	100 U	224	668
MW-108*	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
MW-108*	12/11/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-108*	02/26/09	0.5 U	NA	NA	NA	0.007 UU	31 U	50 U	71 U	76 UU	570
MW-108*	04/23/09	2.5 U W	NA	NA	NA	0.007 UU	39	250 UW	66 U	197	656
MW-108*	06/25/09	0.5 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-108*	08/20/09	0.5 U	NA	NA	NA	0.012 UU	36	50 U	68 U	95	555
MW-108*	10/30/09	0.5 U	NA	NA	NA	0.014 UU	40	50 U	71 U	101	551
MW-108*	01/20/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-108*	04/21/10	NA	NA	NA	NA	NA	75	50 U	67 U	134	538
MW-108*	07/22/10	NA	NA	NA	NA	NA	76	50 U	76 U	139	536
MW-108*	10/29/10	0.5 U	NA	NA	NA	0.0119225 UU	29 U	50 U	67 U	73 UU	574
MW-108*	03/23/11	NA	NA	NA	NA	NA	33	50 U	67 U	92	557
MW-108*	06/16/11	NA	NA	NA	NA	NA	140	50 U	68 U	199	525
MW-108*	09/28/11	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-108*	12/16/11	0.2 U	NA	NA	NA	0.00717 UU	29 U	50 U	67 U	73 UU	574
MW-108*	03/29/12	NA	NA	NA	NA	NA	110	50 U	150	285	517
MW-108*	06/29/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-108*	09/27/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-108*	12/18/12	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-108*	03/27/13	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-108*	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-108*	09/26/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-108*	12/19/13	0.2 U	NA	NA	NA	0.008 UU	32 U	50 U	74 U	78 UU	568
MW-108*	03/27/14	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-108*	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-108*	10/02/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-108*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-108*	03/26/15	NA	NA	NA	NA	NA	29 U	500 U	68 U	299 UU	729
MW-108*	06/24/15	NA	NA	NA	NA	NA	28 U	250 U	66 U	172 UU	687
MW-109*	10/23/08	0.50 U	0.50 U	0.50 U	1.00 U	0.008 UU	253 U	50 U	505 U	404 UU	512
MW-109*	12/12/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	248 U	50 U	495 U	397 UU	512
MW-109*	02/26/09	0.5 U	NA	NA	NA	0.008 UU	32 U	50 U	75 U	79 UU	568
MW-109*	04/23/09	0.5 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-109*	06/25/09	0.5 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-109*	08/20/09	0.5 U	NA	NA	NA	0.012 UU	29 U	50 U	67 U	73 UU	574
MW-109*	10/30/09	0.5 U	NA	NA	NA	0.012 UU	29 U	50 U	67 U	73 UU	574
MW-109*	01/20/10	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-109*	04/21/10	NA	NA	NA	NA	NA	55	50 U	67 U	114	545
MW-109*	07/22/10	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-109*	10/29/10	0.5 U	NA	NA	NA	0.012 UU	29 U	50 U	67 U	73 UU	574
MW-109*	03/23/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-109*	06/16/11	NA	NA	NA	NA	NA	96	50 U	100	221	522
MW-109*	09/28/11	NA	NA	NA	NA	NA	32 U	50 U	75 U	79 UU	568



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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-109*	12/16/11	0.2 U	NA	NA	NA	0.0072 UU	29	50 U	66 U	87	560
MW-109*	03/29/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-109*	06/29/12	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-109*	09/27/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-109*	12/18/12	0.2 U	NA	NA	NA	0.008 UU	33 U	50 U	77 U	80 UU	566
MW-109*	03/27/13	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-109*	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-109* (Duplicate)	06/27/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-109*	09/26/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-109*	12/19/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	73 U	77 UU	569
MW-109*	03/27/14	NA	NA	NA	NA	NA	54	67 U	50 U	113	563
MW-109*	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-109*	10/02/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-109*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-109*	03/26/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-109*	06/24/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-126	06/29/12	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-126 (Duplicate)	06/29/12	NA	NA	NA	NA	NA	31 U	50 U	71 U	76 UU	570
MW-126	12/18/12	0.2 U	NA	NA	NA	0.008 UU	170	50 U	68 U	229	521
MW-126	06/25/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-126	12/17/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-126 (Duplicate)	12/17/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-126	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-126	12/10/14	0.2 U	NA	NA	NA	0.008 UU	210	50 U	67 U	269	518
MW-126	06/23/15	NA	NA	NA	NA	NA	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 UU	45 U	50 U	100 U	98 UU	553
MW-126	07/25/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-126	03/22/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-126	06/29/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-126	09/18/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-126	11/30/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-126 (Duplicate)	11/30/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-126	03/21/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-126	06/19/19	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-126	09/19/19	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-126	12/11/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-126	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-126	06/24/20	0.2 U	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	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-126	11/06/20	0.2 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-126	03/04/21	0.2 U	NA	NA	NA	0.009 UU	50 UJ	19 J	110 UJ	99	539
MW-126	06/23/21	0.3 U	NA	NA	NA	0.009 UU	110	19 U	100 U	170	511
MW-126	08/25/21	0.3 U	NA	NA	NA	0.010 UU	50 UJ	19 U	110 U	90 UU	521
MW-126	11/01/21	0.3 U	NA	NA	NA	0.009 UU	48 U	35 J	110 U	114	565
MW-129R*	10/24/08	0.50 U	0.50 U	0.50 U	1.12	0.007 UU	250 U	68.1	500 U	443	531
MW-129R*	12/12/08	0.50 U	0.50 U	0.50 U	1.00 U	0.008 UU	245 U	50 U	490 U	393 UU	512
MW-129R*	02/27/09	0.5 U	NA	NA	NA	0.007 UU	1,900	50 U	730	2,655	502
MW-129R*	04/27/09	0.5 U	NA	NA	NA	0.007 UU	1,400	50 U	250	1,675	503
MW-129R*	06/26/09	0.5 U	NA	NA	NA	0.007 UU	1,700	50 U	1,000	2,725	502
MW-129R*	08/21/09	0.5 U	NA	NA	NA	0.012 UU	3,400	50 U	1,000	4,425	501
MW-129R*	10/28/09	0.5 U	NA	NA	NA	0.013 UU	1,900	50 U	240	2,165	502

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-129R*	01/21/10	NA	NA	NA	NA	1,800	50 U	650	2,475	502	
MW-129R*	04/22/10	NA	NA	NA	NA	1,600	50 U	390	2,015	502	
MW-129R*	07/22/10	NA	NA	NA	NA	1,800	50 U	400	2,225	502	
MW-129R*	11/01/10	0.5 U	NA	NA	NA	1,900	50 U	700	2,625	502	
MW-129R*	03/23/11	NA	NA	NA	NA	1,700	50 UU	550	2,300	504	
MW-129R* (Duplicate)	03/23/11	NA	NA	NA	NA	1,700	50 U	650	2,375	502	
MW-129R*	06/17/11	NA	NA	NA	NA	1,600	50 U	310	1,935	502	
MW-129R*	09/28/11	NA	NA	NA	NA	2,700	50 U	230	2,955	502	
MW-129R*	12/19/11	0.2	NA	NA	NA	0.007 UU	45	67 U	104	550	
MW-129R*	03/29/12	NA	NA	NA	NA	1,700	55	300	2,055	505	
MW-129R* (Duplicate)	03/29/12	NA	NA	NA	NA	87	56	67 U	177	568	
MW-129R*	07/02/12	NA	NA	NA	NA	44	50 U	67 U	103	550	
MW-129R*	09/27/12	NA	NA	NA	NA	330	50 U	75 U	393	512	
MW-129R*	12/18/12	0.2 U	NA	NA	NA	0.009 UU	32	68 U	91	557	
MW-129R*	03/27/13	NA	NA	NA	NA	29	50 U	67 U	88	560	
MW-129R*	06/26/13	NA	NA	NA	NA	30	50	68 U	114	598	
MW-129R*	09/24/13	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-129R*	12/18/13	0.2 U	NA	NA	NA	0.008 UU	33	71 U	94	556	
MW-129R*	03/26/14	NA	NA	NA	NA	46	56	67 U	136	592	
MW-129R*	06/18/14	NA	NA	NA	NA	80	50 U	66 U	138	536	
MW-129R*	09/30/14	NA	NA	NA	NA	310	50 U	68 U	369	513	
MW-129R*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	36	66 U	94	555	
MW-129R*	03/26/15	NA	NA	NA	NA	100	52	67 U	186	559	
MW-129R*	06/23/15	NA	NA	NA	NA	51	50 U	66 U	109	547	
MW-129R*	07/26/17	0.5 U	NA	NA	NA	0.008 UU	46 U	100 U	166	633	
MW-129R*	03/20/18	0.2 U	NA	NA	NA	0.008 UU	1,900	110 U	1,980	502	
MW-129R*	06/27/18	0.5 U	NA	NA	NA	0.008 UU	47 U	100 U	99 UU	553	
MW-129R*	09/17/18	0.5 U	NA	NA	NA	0.008 UU	81	110 U	174	545	
MW-129R*	11/28/18	0.5 U	NA	NA	NA	0.008 UU	550	130	712	509	
MW-129R*	02/07/19	0.0 U	NA	NA	NA	0.008 UU	46 J	100 U	129	553	
MW-129R*	03/19/19	0.0 U	NA	NA	NA	0.008 UU	46 U	100 U	107	568	
MW-129R*	06/20/19	0.5 U	NA	NA	NA	0.008 UU	240	100 U	300	506	
MW-129R*	09/17/19	0.2 U	NA	NA	NA	0.008 UU	46 U	100 U	129	597	
MW-129R*	12/11/19	0.2 U	NA	NA	NA	0.008 UU	62 J	110 U	154	550	
MW-129R*	03/11/20	0.2 U	NA	NA	NA	0.008 UU	1200	460	1,694	504	
MW-129R* (Duplicate)	03/11/20	0.2 U	NA	NA	NA	0.008 UU	560	100 U	657	514	
MW-129R*	06/24/20	0.2 U	NA	NA	NA	0.008 UU	51 J	100 U	154	574	
MW-129R* (Duplicate)	06/24/20	0.2 U	NA	NA	NA	0.008 UU	59 J	100 U	154	562	
MW-129R*	09/21/20	0.2 U	NA	NA	NA	0.008 UU	61 J	100 U	147	551	
MW-129R*	11/04/20	0.2 U	NA	NA	NA	0.009 UU	88 J	110 J	208	509	
MW-129R*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 U	100 U	183	646	
MW-129R*	06/22/21	0.3 U	NA	NA	NA	0.009 UU	72 J	110 U	185	567	
MW-129R*	08/24/21	0.3 U	NA	NA	NA	0.010 UU	620	120 U	820	534	
MW-129R*	11/02/21	0.3 U	NA	NA	NA	0.009 UU	78 J	110 U	233	596	
MW-134X	06/28/12	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-134X	12/14/12	0.2 U	NA	NA	NA	0.008 UU	30	210	265	518	
MW-134X	06/27/13	NA	NA	NA	NA	30	50 U	71	126	540	
MW-134X	12/19/13	0.2 U	NA	NA	NA	0.008 UU	29 U	68 U	74 UU	573	
MW-134X	06/17/14	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-134X	12/10/14	0.2 U	NA	NA	NA	0.008 UU	28 U	66 U	72 UU	575	
MW-134X	06/24/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-135*	10/27/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-135*	12/15/08	0.5 U	0.5 U	0.5 U	1.00 U	0.007 UU	238 U	50 U	476 U	382 UU	513
MW-135*	02/27/09	0.5 U	NA	NA	NA	0.079 UU	800	50 U	870	1,695	503
MW-135*	04/24/09	0.5 U	NA	NA	NA	0.007 UU	310	50 U	67 U	369	513
MW-135*	06/29/09	0.5 U	NA	NA	NA	0.007 UU	1,600	50 U	1,000	2,625	502
MW-135*	08/24/09	0.5 U	NA	NA	NA	0.012 UU	1,900	50 U	640	2,565	502
MW-135*	10/29/09	0.5 U	NA	NA	NA	0.012 UU	2,000	50 U	520	2,545	502
MW-135*	01/21/10	NA	NA	NA	NA	NA	460	50 U	360	845	506
MW-135*	04/23/10	NA	NA	NA	NA	NA	610	50 U	400	1,035	505
MW-135*	07/22/10	NA	NA	NA	NA	NA	1,400	50 U	200	1,625	503
MW-135*	11/01/10	0.5 U	NA	NA	NA	0.012 UU	1,800	50 U	590	2,415	502
MW-135*	03/24/11	NA	NA	NA	NA	NA	500	50 U	170	695	507
MW-135*	06/17/11	NA	NA	NA	NA	NA	550	50 U	210	785	506
MW-135*	03/28/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-135*	09/28/11	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-135*	12/16/11	0.2 U	NA	NA	NA	0.007 UU	79	50 U	110	214	523
MW-135*	03/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-135*	07/02/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-135*	09/28/12	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-135*	12/19/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-135*	03/28/13	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-135*	06/28/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-135*	09/26/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-135*	12/20/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-135*	03/28/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-135*	06/20/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-135*	10/02/14	NA	NA	NA	NA	NA	35 U	50 U	82 U	84 UU	563
MW-135*	12/12/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-135*	03/26/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-135*	06/26/15	NA	NA	NA	NA	NA	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	0.008 UU	243 U	50 U	485 U	389 UU	512
MW-136*	12/15/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	60.6	485 U	425	528
MW-136*	02/27/09	2.5	NA	NA	NA	0.007 UU	2,400	120	490	3,010	508
MW-136*	04/24/09	1.9	NA	NA	NA	0.009 UU	1,400	52	170	1,622	506
MW-136*	06/29/09	0.8	NA	NA	NA	0.008 UU	2,500	50 U	1,200	3,725	501
MW-136*	08/24/09	0.6	NA	NA	NA	0.012 UU	1,600	50 U	560	2,185	502
MW-136*	10/29/09	0.5 U	NA	NA	NA	0.013 UU	2,100	50 U	460	2,585	502
MW-136*	01/21/10	NA	NA	NA	NA	NA	980	50 U	540	1,545	503
MW-136*	04/23/10	NA	NA	NA	NA	NA	1,100	50 U	410	1,535	503
MW-136*	07/22/10	NA	NA	NA	NA	NA	1,300	50 U	250	1,575	503
MW-136*	11/01/10	0.5 U	NA	NA	NA	0.012 UU	1,200	50 U	460	1,685	503
MW-136*	03/24/11	NA	NA	NA	NA	NA	540	50 U	78	643	507
MW-136*	06/17/11	NA	NA	NA	NA	NA	510	50 U	110	645	507
MW-136*	09/28/11	NA	NA	NA	NA	NA	40	50 U	67 U	99	553
MW-136*	12/16/11	0.2 U	NA	NA	NA	0.007 UU	40	50 U	71 U	101	551
MW-136*	03/29/12	NA	NA	NA	NA	NA	570	50 U	240	835	506
MW-136*	07/03/12	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-136*	09/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-136*	12/19/12	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-136*	03/28/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-136*	06/28/13	NA	NA	NA	NA	NA	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-136*	09/26/13	NA	NA	NA	NA	42	50 U	68 U	101	551	
MW-136* (Duplicate)	09/26/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-136*	12/20/13	0.2 U	NA	NA	NA	0.008 UU	32 U	50 U	74 U	568	
MW-136*	03/28/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-136*	06/20/14	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-136* (Duplicate)	06/20/14	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-136*	10/02/14	NA	NA	NA	NA	32 U	50 U	75 U	79 UU	568	
MW-136* (Duplicate)	10/02/14	NA	NA	NA	NA	33 U	51 U	96	138	537	
MW-136*	12/12/14	0.2 U	NA	NA	NA	0.011 UU	30 U	50 U	70 U	571	
MW-136* (Duplicate)	12/12/14	0.2 U	NA	NA	NA	0.008 UU	29	50 U	68 U	560	
MW-136*	03/26/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-136*	06/26/15	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-139R*	10/22/08	0.50 U	0.50 U	0.724	1.00 U	0.007 UU	240 U	57 JZ	481 U	418	527
MW-139R*	12/10/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	248 U	50 U	495 U	397 UU	512
MW-139R*	02/25/09	0.5 U	NA	NA	NA	0.008 UU	42	50 U	73 U	104	550
MW-139R*	04/23/09	0.5 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-139R*	06/25/09	0.5 U	NA	NA	NA	0.007 UU	63	50 U	69 U	123	541
MW-139R*	08/20/09	0.5 U	NA	NA	NA	0.012 UU	87	50 U	66 U	145	535
MW-139R*	10/28/09	0.5 U	NA	NA	NA	0.012 UU	78	50 U	70 U	138	536
MW-139R*	01/20/10	NA	NA	NA	NA	NA	31	50 U	70 U	91	557
MW-139R* (Duplicate)	01/20/10	NA	NA	NA	NA	NA	36	50 U	70 U	96	554
MW-139R*	04/21/10	NA	NA	NA	NA	NA	34 U	50 U	78 U	81 UU	565
MW-139R*	07/21/10	NA	NA	NA	NA	NA	66	50 U	80 U	131	539
MW-139R*	10/28/10	0.5 U	NA	NA	NA	0.012 UU	64	50 U	66 U	122	542
MW-139R*	03/23/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-139R*	06/16/11	NA	NA	NA	NA	NA	56	50 U	870	951	505
MW-139R*	09/27/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-139R*	12/15/11	0.2	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-139R*	03/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-139R*	06/29/12	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-139R*	09/27/12	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-139R*	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-139R* (Duplicate)	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-139R*	03/27/13	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-139R*	06/27/13	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-139R*	09/26/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-139R*	12/18/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	71 U	76 UU	571
MW-139R*	03/28/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-139R*	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-139R*	10/01/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-139R*	12/10/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-139R*	03/25/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-139R*	06/25/15	NA	NA	NA	NA	NA	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	0.008 UU	45 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	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-139R*	07/27/17	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-139R*	03/22/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-139R*	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-139R*	09/19/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-139R*	11/28/18	0.5 U	NA	NA	NA	0.010 UU	47 U	19 U	100 U	83 UU	522
MW-139R*	03/20/19	0.0 U	NA	NA	NA	0.010 UU	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-139R*	06/18/19	0.5 U	NA	NA	NA	0.008 UU	75 J	19 U	110 U	140	513
MW-139R*	09/18/19	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-139R*	12/09/19	0.2 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-139R*	03/10/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-139R*	06/24/20	0.2 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-139R*	09/21/20	0.2 U	NA	NA	NA	0.008 UU	360	19 U	500	870	502
MW-139R*	11/03/20	0.2 U	NA	NA	NA	0.009 UU	50 U	19 U	110 U	90 UU	521
MW-139R* (Duplicate)	11/03/20	0.2 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-139R*	03/03/21	0.2 U	NA	NA	NA	0.009 UU	58 J	19 U	100 U	118	516
MW-139R*	06/22/21	0.3 U	NA	NA	NA	0.010 UU	52 U	19 U	120 U	96 UU	519
MW-139R*	08/25/21	0.3 U	NA	NA	NA	0.009 UU	48 UJ	19 U	110 U	89 UU	521
MW-139R*	11/03/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-139R* (Duplicate)	11/03/21	0.3 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-13U	06/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-13U	12/14/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-13U	06/27/13	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-13U	12/20/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	71 U	76 UU	570
MW-13U (Duplicate)	12/20/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-13U	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-13U	12/10/14	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-13U	06/24/15	NA	NA	NA	NA	NA	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	0.007 UU	250 U	50 U	500 U	400 UU	512
MW-143	12/16/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	240 U	50 U	481 U	386 UU	512
MW-143	02/25/09	0.5 U	NA	NA	NA	0.007 UU	1,400	50 U	580	2,005	502
MW-143	04/21/09	0.5 U	NA	NA	NA	0.007 UU	710	50 U	69 U	770	506
MW-143	06/24/09	0.5 U	NA	NA	NA	0.007 UU	940	50 U	210	1,175	504
MW-143	08/19/09	0.5 U	NA	NA	NA	0.013 UU	360	50 U	71 U	421	511
MW-143	10/27/09	0.5 U	NA	NA	NA	0.013 UU	200	50 U	66 U	258	519
MW-143	01/21/10	NA	NA	NA	NA	NA	620	50 U	330	975	505
MW-143	04/20/10	NA	NA	NA	NA	NA	1,200	50 U	340	1,565	503
MW-143 (Duplicate)	04/20/10	NA	NA	NA	NA	NA	1,400	50 U	450	1,875	503
MW-143	07/20/10	NA	NA	NA	NA	NA	1,300	50 U	260	1,585	503
MW-143	10/27/10	0.5 U	NA	NA	NA	0.012 UU	110	50 U	67 U	169	529
MW-143	06/15/11	NA	NA	NA	NA	NA	1,500	50 U	220	1,745	503
MW-143	12/14/11	0.2 U	NA	NA	NA	0.007 UU	31	50 U	67 U	90	559
MW-143	06/29/12	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-143	12/20/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-143	06/27/13	0.2 U	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-143	12/18/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-143 (Duplicate)	12/18/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-143	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-143	12/10/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	65 U	72 UU	575
MW-143	06/23/15	NA	NA	NA	NA	NA	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	0.023 UU	47 U	50 U	100 U	99 UU	553
MW-143	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-143	03/22/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-143	06/29/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-143	09/18/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-143	11/30/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-143	03/21/19	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-143	06/19/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-143	09/19/19	0.2 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-143	12/11/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-143	03/09/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-143	06/24/20	0.2 U	NA	NA	NA	0.009 UU	47 U	24 J	100 U	98	551
MW-143	09/23/20	1.0 U	NA	NA	NA	0.009 UU	48 U	24 J	110 U	103	548
MW-143	11/06/20	0.2 UJ	NA	NA	NA	0.008 UU	46 UJ	19 U	100 UJ	83 UU	523
MW-143	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	32 J	100 UJ	106	564
MW-143	06/23/21	1.5 U	NA	NA	NA	0.009 UU	46 U	34 J	100 U	107	568
MW-143	08/25/21	1.5 U	NA	NA	NA	0.010 UU	50 UJ	27 J	110 U	107	552
MW-143	11/01/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-147*	10/21/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	240 U	91.2	481 U	452	541
MW-147*	12/09/08	0.50 U	0.562	1.38	3.49	0.008 UU	243 U	604	485 U	968	653
MW-147*	02/23/09	0.5 U	NA	NA	NA	0.007 UU	1,100	760	380.00	2,240	573
MW-147* (Duplicate)	02/23/09	0.5 U	NA	NA	NA	0.008 UU	1,000	790	420	2,210	577
MW-147*	04/21/09	1.7	NA	NA	NA	0.008 UU	730	630	99	1,459	597
MW-147*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	750	260	290	1,300	541
MW-147*	08/18/09	0.5 U	NA	NA	NA	0.012 UU	240	76	70 U	351	544
MW-147*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	1,700	690	330	2,720	553
MW-147*	01/19/10	NA	NA	NA	NA	NA	360	750	66 U	1,143	663
MW-147*	04/20/10	NA	NA	NA	NA	NA	320	730	78	1,128	660
MW-147*	07/20/10	NA	NA	NA	NA	NA	500	70	100	670	520
MW-147*	10/26/10	0.5 U	NA	NA	NA	0.013 UU	1,200	330	200	1,730	539
MW-147*	03/22/11	NA	NA	NA	NA	NA	750	740	68 U	1,524	611
MW-147*	06/15/11	NA	NA	NA	NA	NA	370	250	67 U	654	584
MW-147*	09/27/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-147*	12/13/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-147* (Duplicate)	12/13/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-147*	03/28/12	NA	NA	NA	NA	NA	29 U	130	67 U	178	689
MW-147*	06/28/12	NA	NA	NA	NA	NA	29 U	59	67 U	107	630
MW-147*	09/26/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-147*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-147*	03/26/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-147*	06/25/13	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-147*	09/25/13	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-147*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-147*	03/28/14	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-147*	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-147*	09/30/14	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-147*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-147*	03/25/15	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-147* (Duplicate)	03/25/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-147*	06/23/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-149R*	10/21/08	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-149R*	12/09/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-149R*	02/23/09	0.5 U	NA	NA	NA	0.008 UU	110	50 U	78 U	174	528
MW-149R*	04/21/09	0.5 U	NA	NA	NA	0.008 UU	100	50 U	76 U	163	531
MW-149R*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	190	50 U	66 U	248	520
MW-149R*	08/18/09	0.5 U	NA	NA	NA	0.012 UU	160	50 U	66 U	218	522
MW-149R*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	430	50 U	320	775	506
MW-149R*	01/19/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-149R*	04/20/10	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-149R* (Duplicate)	04/20/10	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-149R*	07/20/10	NA	NA	NA	NA	210	50 U	89	324	515	
MW-149R*	10/26/10	0.5 U	NA	NA	NA	410	50 U	210	645	507	
MW-149R*	03/22/11	NA	NA	NA	NA	61	50 U	66 U	119	543	
MW-149R*	06/17/11	NA	NA	NA	NA	82	50 U	66 U	140	536	
MW-149R*	09/27/11	NA	NA	NA	NA	30 U	50 U	67 U	74 UU	573	
MW-149R*	12/13/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	68 U	74 UU	573
MW-149R*	03/28/12	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-149R* (Duplicate)	03/28/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-149R*	06/28/12	NA	NA	NA	NA	250	50 U	66 U	308	516	
MW-149R*	09/26/12	NA	NA	NA	NA	32 U	50 U	74 U	78 UU	568	
MW-149R*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-149R*	03/26/13	NA	NA	NA	NA	32 U	50 U	74 U	78 UU	568	
MW-149R*	06/25/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-149R*	09/24/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-149R*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	71 U	76 UU	571
MW-149R*	03/28/14	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-149R*	06/18/14	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-149R*	09/30/14	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-149R*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-149R*	03/25/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-149R*	06/23/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-150*	10/21/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	240 U	50 U	481 UJ	386 UU	512
MW-150*	12/09/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	248 U	50 U	495 U	397 UU	512
MW-150*	02/23/09	0.5 U	NA	NA	NA	0.007 UU	82	50 U	69 U	142	535
MW-150*	04/21/09	0.5 U	NA	NA	NA	0.007 UU	240	50 U	69 U	300	516
MW-150*	06/23/09	0.5 U	NA	NA	NA	0.008 UU	160	50 U	69 U	220	522
MW-150*	08/18/09	0.5 U	NA	NA	NA	0.013 UU	110	50 U	72 U	171	529
MW-150*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	420	50 U	270	715	507
MW-150*	01/19/10	NA	NA	NA	NA	31	50 U	69 U	91	558	
MW-150*	04/20/10	NA	NA	NA	NA	48	50 U	77 U	112	546	
MW-150*	07/20/10	NA	NA	NA	NA	200	50 U	68 U	259	519	
MW-150*	10/26/10	0.5 U	NA	NA	NA	0.012 UU	59	50 U	65 U	117	544
MW-150*	03/22/11	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-150*	06/17/11	NA	NA	NA	NA	190	50 U	68 U	249	520	
MW-150*	09/27/11	NA	NA	NA	NA	30 U	50 U	68 U	74 UU	573	
MW-150*	12/13/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	68 U	74 UU	573
MW-150* (Duplicate)	12/13/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-150*	03/28/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-150*	06/28/12	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-150*	09/26/12	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-150*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-150*	03/26/13	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-150*	06/25/13	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-150*	09/26/13	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-150*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-150*	03/28/14	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-150*	06/18/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-150*	09/30/14	NA	NA	NA	NA	31 U	50 U	71 U	76 UU	570	
MW-150* (Duplicate)	09/30/14	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571	
MW-150*	12/09/14	0.4 U	NA	NA	NA	0.008 UU	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-150* (Duplicate)	12/09/14	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-150*	03/25/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-150*	06/23/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-203	06/28/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-203	12/17/12	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-203	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-203	12/19/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-203	06/18/14	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-203	12/10/14	0.3	NA	NA	NA	0.008 UU	28 U	50 U	65 U	72 UU	575
MW-203	06/24/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-20R*	10/22/08	2.95	0.50 U	3.31	1.00 U	0.008 UU	250 U	222	500 U	597	581
MW-20R*	12/10/08	22.2	0.50 U	2.06	1.14	0.007 UU	248 U	325	495 U	697	606
MW-20R*	02/24/09	55	NA	NA	NA	0.007 UU	580	420	87	1,087	585
MW-20R*	04/22/09	47	NA	NA	NA	0.008 UU	510	270	86	866	566
MW-20R*	06/24/09	0.5 U	NA	NA	NA	0.007 UU	160	50 U	69 U	220	522
MW-20R*	08/19/09	8.4	NA	NA	NA	0.012 UU	220	50 U	68 U	279	517
MW-20R*	10/27/09	4.9	NA	NA	NA	0.013 UU	170	50 U	72 U	231	521
MW-20R*	01/19/10	50	0.5 U	1.1	1.5 U	NA	260	66	66 U	359	537
MW-20R*	04/21/10	0.9	NA	NA	NA	NA	350	50 U	100	475	510
MW-20R*	07/20/10	0.5	0.5 U	0.5 U	0.5	NA	130	50 U	66 U	188	526
MW-20R* (Duplicate)	07/20/10	0.5	0.5 U	0.5 U	0.5 U	NA	130	50 U	66 U	188	526
MW-20R*	10/27/10	0.5 U	NA	NA	NA	0.012 UU	47	50 U	75 U	110	547
MW-20R*	03/23/11	5.3	NA	NA	NA	NA	390	50 U	190	605	508
MW-20R*	06/15/11	3.9	NA	NA	NA	NA	320	71	72	463	531
MW-20R*	09/27/11	0.9	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-20R*	12/14/11	20	NA	NA	NA	0.007 UU	29 U	65	67 U	113	638
MW-20R*	03/28/12	28	NA	NA	NA	NA	29 U	120	67 U	168	683
MW-20R*	06/28/12	0.3	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-20R*	09/26/12	2.2	NA	NA	NA	NA	30 U	57	70 U	107	625
MW-20R*	12/17/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-20R*	03/26/13	3.7	NA	NA	NA	NA	29 U	310	68 U	359	740
MW-20R*	06/25/13	1.1	NA	NA	NA	NA	29 U	69	67 U	117	642
MW-20R*	09/25/13	0.5 U	0.5 U	0.5 U	1.5 U	NA	31 U	50 U	72 U	77 UU	570
MW-20R* (Duplicate)	09/25/13	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-20R*	12/18/13	35	NA	NA	NA	0.008 UU	30 U	82	70 U	132	652
MW-20R*	03/26/14	38	NA	NA	NA	NA	29 U	210	67 U	258	720
MW-20R*	06/18/14	0.7	NA	NA	NA	NA	28 U	98	66 U	145	670
MW-20R*	10/01/14	0.8	NA	NA	NA	NA	32 U	50 U	74 U	78 UU	568
MW-20R*	12/10/14	0.8	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-20R*	03/24/15	0.4	NA	NA	NA	NA	31 U	88	71 U	139	656
MW-20R*	06/24/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-20R*	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-20R*	07/26/17	1.6	NA	NA	NA	0.008 UU	46 U	64	100 U	137	606
MW-20R*	03/22/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-20R*	06/29/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-20R*	09/18/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-20R*	11/29/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-20R* (Duplicate)	11/29/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-20R*	03/20/19	0.0 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-20R*	06/19/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-20R* (Duplicate)	06/19/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-20R*	09/18/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-20R*	12/12/19	1.0	NA	NA	NA	0.009 UU	50 U	34 J	110 U	114	563
MW-20R*	03/10/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-20R*	07/01/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-20R*	09/23/20	0.2 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-20R*	11/06/20	0.2 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-20R*	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 UJ	83 UU	522
MW-20R*	06/23/21	0.3 U	NA	NA	NA	0.010 UU	53 U	19 U	120 U	96 UU	519
MW-20R*	08/25/21	0.3 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 U	83 UU	522
MW-20R*	11/03/21	0.3 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-500*	10/27/08	0.8	0.50 U	0.93	8.29	0.007 UU	1,180	298	472 U	1,714	535
MW-500*	12/15/08	0.5 U	0.50 U	0.50 U	1.00 U	0.007 UU	245 U	50 U	490 U	393 UU	512
MW-500*	02/27/09	0.5 U	NA	NA	NA	0.008 UU	250	50 U	320	595	508
MW-500*	04/24/09	0.5 U	NA	NA	NA	0.007 UU	44	50 U	76 U	107	548
MW-500* (Duplicate)	04/24/09	0.5 U	NA	NA	NA	0.008 UU	35	50 U	75 U	98	553
MW-500*	06/29/09	0.5 U	NA	NA	NA	0.008 UU	1,400	50 U	500	1,925	502
MW-500*	08/21/09	0.6	NA	NA	NA	0.012 UU	2,200	110	690	3,000	507
MW-500*	10/29/09	0.5 U	NA	NA	NA	0.012 UU	1,000	50 U	500	1,525	503
MW-500*	01/21/10	NA	NA	NA	NA	NA	36	50 U	70	131	539
MW-500* (Duplicate)	01/21/10	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-500*	04/22/10	NA	NA	NA	NA	NA	59	50 U	68 U	118	543
MW-500*	07/22/10	NA	NA	NA	NA	NA	490	50 U	96	611	508
MW-500*	11/01/10	0.5 U	NA	NA	NA	0.012 UU	170	50 U	67 U	229	521
MW-500*	03/24/11	NA	NA	NA	NA	NA	32	50 U	68 U	91	557
MW-500*	06/17/11	NA	NA	NA	NA	NA	130	50 U	67 U	189	526
MW-500*	09/28/11	NA	NA	NA	NA	NA	61	60	69 U	156	585
MW-500* (Duplicate)	09/28/11	NA	NA	NA	NA	NA	45	62	98 U	156	588
MW-500*	12/16/11	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-500*	03/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-500*	07/02/12	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-500*	09/28/12	NA	NA	NA	NA	NA	230	80	150	460	535
MW-500*	12/19/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-500*	03/28/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-500*	06/28/13	NA	NA	NA	NA	NA	29 U	57 U	67 U	77 UU	581
MW-500*	09/26/13	NA	NA	NA	NA	NA	41	50 U	70 U	101	551
MW-500*	12/20/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-500*	03/28/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-500*	06/19/14	NA	NA	NA	NA	NA	29 U	72	67 U	120	645
MW-500*	10/01/14	NA	NA	NA	NA	NA	130	65	83	278	548
MW-500*	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-500*	03/26/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-500*	06/26/15	NA	NA	NA	NA	NA	83	93	66 U	209	600
MW-501*	10/24/08	0.50 U	1.42	1.15	1.00 U	0.008 UU	6,690 J	1,040	597 J	8,327	525
MW-501*	12/15/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-501*	03/02/09	0.5 U	NA	NA	NA	0.008 UU	630	50.00 U	160	815	506
MW-501* (Duplicate)	03/02/09	5.0 U	NA	NA	NA	0.008 UU	550	50.00 U	210	785	506
MW-501*	04/24/09	0.5 U	NA	NA	NA	0.007 UU	350	50 U	67	442	511
MW-501*	06/26/09	0.5 U	NA	NA	NA	0.007 UU	1,700	50 U	1,100	2,825	502
MW-501*	08/21/09	0.5 U	NA	NA	NA	0.013 UU	2,600	50 U	760	3,385	501
MW-501*	10/29/09	0.5 U	NA	NA	NA	0.013 UU	75	50 U	73 U	137	537
MW-501*	01/21/10	NA	NA	NA	NA	NA	75	50 U	67 U	134	538

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-501*	04/22/10	NA	NA	NA	NA	130	50 U	69 U	190	526	
MW-501*	07/22/10	NA	NA	NA	NA	470	50 U	97	592	508	
MW-501*	11/01/10	0.5 U	NA	NA	NA	230	50 U	68 U	289	517	
MW-501*	03/24/11	NA	NA	NA	NA	89	50 U	67 U	148	534	
MW-501*	06/17/11	NA	NA	NA	NA	340	50 U	82	447	511	
MW-501*	09/28/11	NA	NA	NA	NA	30 U	50 U	67 U	74 UU	573	
MW-501*	12/16/11	0.2 U	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-501*	03/28/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-501*	07/02/12	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569	
MW-501*	09/28/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-501*	12/19/12	0.2 U	NA	NA	NA	54	50 U	67 U	113	545	
MW-501*	03/28/13	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-501*	06/27/13	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-501*	09/26/13	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571	
MW-501*	12/20/13	0.2 U	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-501*	03/28/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-501*	06/19/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-501*	10/01/14	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571	
MW-501*	12/11/14	0.2 U	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-501*	03/26/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-501*	06/26/15	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-502	10/24/08	0.50 U	0.50 U	0.891	1.00 U	0.008 UU	347	1,100 JZ	500 U	1,697	661
MW-502	12/12/08	0.50 U	0.50 U	0.50 U	1.00 U	0.008 UU	321 JX	874	485 U	1,438	648
MW-502	02/25/09	0.5 U	NA	NA	NA	0.008 UU	31 U	1,500	72 U	1,552	784
MW-502	04/22/09	0.5 U	NA	NA	NA	0.071 UU	370	1,100	66 U	1,503	689
MW-502	06/26/09	0.5 U	NA	NA	NA	0.007 UU	260	170	82	512	571
MW-502 (Duplicate)	06/26/09	0.5 U	NA	NA	NA	0.007 UU	220	160	66 U	413	585
MW-502	08/21/09	0.5 U	NA	NA	NA	0.012 UU	140	50 U	67 U	199	525
MW-502	10/28/09	0.5 U	NA	NA	NA	0.012 UU	370	470	66 U	873	626
MW-502	01/21/10	NA	NA	NA	NA	NA	300	800	130	1,230	661
MW-502	04/22/10	NA	NA	NA	NA	NA	290	520	67 U	844	650
MW-502	07/21/10	NA	NA	NA	NA	NA	200	50 U	68 U	259	519
MW-502	10/28/10	0.5 U	NA	NA	NA	0.013 UU	98	50 U	75 U	161	531
MW-502	06/17/11	NA	NA	NA	NA	NA	150	50 U	67 U	209	524
MW-502	12/16/11	0.2 U	NA	NA	NA	0.007 UU	30	50 U	66 U	88	560
MW-502	07/02/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-502	12/19/12	0.2 U	NA	NA	NA	0.008 UU	95	180	68 U	309	640
MW-502 (Duplicate)	12/19/12	0.2 U	NA	NA	NA	0.008 UU	95	190	66 U	318	644
MW-502	06/26/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-502	12/20/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-502	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-502	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-502	06/25/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-502	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-502	07/26/17	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-502 (Duplicate)	07/26/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-502	03/21/18	0.2 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-502	06/27/18	0.5 U	NA	NA	NA	0.008 UU	50 U	50 U	110 U	105 UU	549
MW-502	09/20/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-502	11/28/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-502	03/20/19	0.0 U	NA	NA	NA	0.008 UU	57 U	19 U	130 U	103 UU	518

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-502	06/18/19	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-502 (Duplicate)	06/18/19	0.5 U	NA	NA	NA	0.013 UU	46 U	19 U	100 U	83 UU	523
MW-502	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-502 (Duplicate)	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-502	12/09/19	0.2 U	NA	NA	NA	0.008 UU	52 U	19 U	120 U	96 UU	519
MW-502	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-502	07/01/20	0.2 U	NA	NA	NA	0.078	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	0.2 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-502	03/02/21	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	110 U	88 UU	521
MW-502	06/21/21	0.3 U	NA	NA	NA	0.015 UJ	53 U	19 U	120 U	96 UU	519
MW-502	08/25/21	0.3 U	NA	NA	NA	0.010 UU	51 U	19 U	110 U	90 UU	521
MW-502	11/02/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-503	10/27/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	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	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-503	02/26/09	0.5 U	NA	NA	NA	0.008 UU	77	50 U	74 U	139	536
MW-503	04/22/09	0.5 U	NA	NA	NA	0.007 UU	130	50 U	68 U	189	526
MW-503	06/26/09	0.5 U	NA	NA	NA	0.007 UU	210	50 U	96	331	515
MW-503	08/21/09	0.5 U	NA	NA	NA	0.012 UU	140	50 U	67 U	199	525
MW-503	10/28/09	0.5 U	NA	NA	NA	0.012 UU	160	50 U	66 U	218	522
MW-503	01/21/10	NA	NA	NA	NA	NA	150	50 U	190	365	513
MW-503	04/22/10	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-503	07/21/10	NA	NA	NA	NA	NA	220	50 U	68 U	279	517
MW-503	10/28/10	0.5 U	NA	NA	NA	0.013 UU	150	50 U	79	254	519
MW-503	06/17/11	NA	NA	NA	NA	NA	140	50 U	67 U	199	525
MW-503 (Duplicate)	06/17/11	NA	NA	NA	NA	NA	160	50 U	67 U	219	522
MW-503	12/15/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-503	07/02/12	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-503	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-503	06/27/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-503	12/19/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-503	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-503	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-503	06/25/15	NA	NA	NA	NA	NA	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	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-503	03/21/18	0.2 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-503	06/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-503 (Duplicate)	06/28/18	0.5 U	NA	NA	NA	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-503	09/20/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-503	11/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-503	03/20/19	0.0 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-503	06/18/19	0.5 U	NA	NA	NA	0.037 UU	46 U	19 U	100 U	83 UU	523
MW-503	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-503	12/09/19	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-503	03/10/20	0.2 U	NA	NA	NA	0.008 UU	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	0.2 U	NA	NA	NA	0.009 UU	420	19 U	430	860	502
MW-503	03/01/21	0.2 U	NA	NA	NA	0.009 UU	45 U	19 U	100 U	82 UU	523
MW-503 (Duplicate)	03/01/21	0.2 U	NA	NA	NA	0.009 UU	180	41 J	710	931	508
MW-503	06/21/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-503 (Duplicate)	06/21/21	0.3 U	NA	NA	NA	0.235 J	46 U	19 U	100 U	83 UU	523
MW-503	08/25/21	0.3 U	NA	NA	NA	0.010 UU	50 UJ	19 U	110 U	90 UU	521
MW-503 (Duplicate)	08/25/21	0.3 U	NA	NA	NA	0.010 UU	49 UJ	19 U	110 U	89 UU	521
MW-503	11/01/21	0.3 U	NA	NA	NA	0.010 UU	51 U	19 U	110 U	90 UU	521
MW-504	10/24/08	7.03	0.50 U	4.03	2.95	0.008 UU	248 U	329	495 U	701	607
MW-504	12/12/08	0.5 U	0.5 U	0.5 U	1.00 U	0.008 UU	248 U	50 U	495 U	397 UU	512
MW-504 (Duplicate)	12/12/08	5 U	5 U	5 U	1.00 U	0.007 UU	250 U	50 U	500 U	400 UU	512
MW-504	02/27/09	0.5 U	NA	NA	NA	0.007 UU	30 U	50 U	70 U	75 UU	571
MW-504	04/24/09	0.5 U	NA	NA	NA	0.007 UU	46	50 U	66 U	104	550
MW-504	06/26/09	0.5 U	NA	NA	NA	0.007 UU	220	50 U	73 U	282	517
MW-504	08/21/09	0.5 U	NA	NA	NA	0.012 UU	220	50 U	68 U	279	517
MW-504	10/28/09	0.5 U	NA	NA	NA	0.012 UU	95	50 U	66 U	153	533
MW-504	01/21/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-504	04/22/10	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-504	07/21/10	NA	NA	NA	NA	NA	110	50 U	75 U	173	529
MW-504	10/28/10	0.5 U	NA	NA	NA	0.012 UU	110	50 U	66 U	168	530
MW-504	06/17/11	NA	NA	NA	NA	NA	60	50 U	68 U	119	543
MW-504	12/16/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-504 (Duplicate)	12/16/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	68 U	74 UU	573
MW-504	07/02/12	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-504	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-504	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-504 (Duplicate)	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-504	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	78	66 U	125	653
MW-504	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-504	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-504	06/25/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-504	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-504	07/26/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-504	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-504	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-504	09/20/18	0.5 U	NA	NA	NA	0.008 UU	51 U	19 U	110 U	90 UU	521
MW-504	11/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-504	03/20/19	0.0 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-504	06/18/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-504	09/18/19	0.2 U	NA	NA	NA	0.008 UU	45 U	21 J	100 U	94	546
MW-504	12/09/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-504	03/10/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-504	06/25/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-504	09/22/20	0.2 U	NA	NA	NA	0.008 UU	48 U	28 J	110 U	107	554
MW-504	11/05/20	0.2 U	NA	NA	NA	0.009 UU	-- R	19 U	120 J	--	--
MW-504	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 UJ	83 UU	522
MW-504	06/24/21	0.3 U	NA	NA	NA	0.009 UU	47 U	22 J	100 U	96	547
MW-504	08/25/21	0.3 U	NA	NA	NA	0.010 UU	51 UJ	19 U	110 U	90 UU	521
MW-504	11/01/21	0.3 U	NA	NA	NA	0.009 UU	51 U	19 J	110 U	100	539
MW-505	10/24/08	0.5 U	0.5 UJ	0.50 U	1.01	0.008 UU	253 U	50 U	505 U	404 UU	512
MW-505 (Duplicate)	10/24/08	5.0 U	5.0 U	2.78	1.00 U	0.007 UU	250 U	50 U	500 U	400 UU	512
MW-505	12/15/08	0.5 U	0.5 U	0.50 U	1.00 U	0.007 UU	238 U	50 U	476 U	382 UU	513
MW-505 (Duplicate)	12/15/08	5.0 U	5.0 U	0.647 U	1.00 U	0.007 UU	238 U	50 U	476 U	382 UU	513
MW-505	02/27/09	0.5 U	NA	NA	NA	0.008 UU	52	50 U	78 U	116	544
MW-505	04/22/09	0.5 U	NA	NA	NA	0.008 UU	59	50 U	67 U	118	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L)	Diesel <sup>3</sup> (µg/L)	Gasoline <sup>4</sup> (µg/L)	Heavy Oil <sup>3</sup> (µg/L)	TPH <sup>5</sup> (µg/L)	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-505	06/26/09	0.5 U	NA	NA	NA	0.007 UU	39	50 U	100	164	530
MW-505	08/21/09	0.5 U	NA	NA	NA	0.013 UU	98	50 U	75 U	161	531
MW-505	10/28/09	0.5 U	NA	NA	NA	0.012 UU	67	50 U	69 U	127	540
MW-505	01/20/10	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-505	04/22/10	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-505	07/21/10	NA	NA	NA	NA	NA	220	50 U	67 U	279	517
MW-505	10/29/10	0.5 U	NA	NA	NA	0.013 UU	130	50 U	74 U	192	526
MW-505	06/17/11	NA	NA	NA	NA	NA	100	50 U	67 U	159	531
MW-505	12/15/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-505	07/02/12	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-505 (Duplicate)	07/02/12	NA	NA	NA	NA	NA	32	50 U	75 U	95	555
MW-505	12/18/12	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	71 U	76 UU	570
MW-505	06/27/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-505	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-505	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-505	12/11/14	0.2 U	NA	NA	NA	0.009 UU	29 U	50 U	67 U	73 UU	574
MW-505	06/25/15	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-505	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-505 (Duplicate)	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-505	07/26/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-505	03/21/18	0.2 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-505	06/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-505	09/20/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-505 (Duplicate)	09/20/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-505	11/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-505	03/20/19	0.0 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-505 (Duplicate)	03/20/19	0.0 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-505	06/19/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-505	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 J	100 U	92	542
MW-505	12/09/19	0.2 U	NA	NA	NA	0.008 UU	47 U	22 J	110 U	101	545
MW-505	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-505	06/25/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
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	0.2 U	NA	NA	NA	0.008 UU	46 U	19 UB	100 U	83 UU	523
MW-505	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	24 J	100 UJ	98	551
MW-505	06/23/21	0.3 U	NA	NA	NA	0.009 UU	47 U	21 J	100 U	95	545
MW-505	08/23/21	Wasp nest in well box. Well neither gauged nor sampled. Nest Removed.									
MW-505	11/01/21	0.3 U	NA	NA	NA	0.009 UU	50 U	25 J	110 U	105	549
MW-506	10/24/08	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-506	12/12/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	248 U	50 U	495 U	397 UU	512
MW-506	02/27/09	0.5 U	NA	NA	NA	0.007 UU	37	50 U	70 U	97	553
MW-506	04/24/09	0.5 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-506	06/26/09	0.5 U	NA	NA	NA	0.007 UU	38	50 U	140	203	524
MW-506	08/21/09	0.5 U	NA	NA	NA	0.013 UU	85	50 U	75 U	148	534
MW-506	10/30/09	0.5 U	NA	NA	NA	0.016 UU	50	50 U	74 U	112	546
MW-506	01/21/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-506	04/22/10	NA	NA	NA	NA	NA	36	50 U	75 U	99	553
MW-506	07/21/10	NA	NA	NA	NA	NA	57	50 U	68 U	116	544
MW-506	10/29/10	0.50 U	NA	NA	NA	0.012 UU	97	50 U	72 U	158	532
MW-506 (Duplicate)	10/29/10	0.5 U	NA	NA	NA	0.012 UU	72	50 U	71 U	133	538
MW-506	06/16/11	NA	NA	NA	NA	NA	50	50 U	67 U	109	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-506	12/15/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-506	06/29/12	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-506	12/19/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-506	06/27/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-506	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-506 (Duplicate)	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	60 U	69 UU	579
MW-506	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-506	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-506	06/25/15	NA	NA	NA	NA	NA	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 UU	46 U	50 U	100 U	98 UU	553
MW-506	07/27/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-506	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-506 (Duplicate)	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-506	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-506	09/19/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-506	11/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-506	03/20/19	0.0 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-506	06/19/19	0.5 U	NA	NA	NA	0.008 UU	52 U	19 U	120 U	96 UU	519
MW-506	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	23 J	100 U	96	549
MW-506	12/09/19	0.2 U	NA	NA	NA	0.008 UU	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	0.2 U	NA	NA	NA	0.008 UU	-- R	33 J	-- R	--	--
MW-506	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	24 J	100 UJ	98	551
MW-506	06/23/21	0.3 U	NA	NA	NA	0.010 UU	46 UF1	41 J	100 U	114	578
MW-506	08/26/21	0.3 U	NA	NA	NA	0.009 UU	48 UJ	25 J	110 U	104	550
MW-506	11/03/21	0.3 U	NA	NA	NA	0.009 UU	50 U	19 U	110 U	90 UU	521
MW-507	10/24/08	0.995	0.50 U	0.50 U	1.00 U	0.007 UU	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 UU	245 U	194	490 U	562	574
MW-507	02/27/09	0.5 U	NA	NA	NA	0.007 UU	610	120	310	1,040	523
MW-507 (Duplicate)	02/27/09	5 U	NA	NA	NA	0.007 UU	560	130	120	810	532
MW-507	04/24/09	0.5 U	NA	NA	NA	0.007 UU	520	59	74 U	616	519
MW-507	06/26/09	0.5 U	NA	NA	NA	0.007 UU	640	62	440	1,142	510
MW-507	08/21/09	0.5 U	NA	NA	NA	0.013 UU	450	54	69 U	539	520
MW-507 (Duplicate)	08/21/09	0.5 U	NA	NA	NA	0.012 UU	500	50 U	72 U	561	508
MW-507	10/28/09	0.5 U	NA	NA	NA	0.013 UU	900	50 U	88	1,013	505
MW-507	01/21/10	NA	NA	NA	NA	NA	270	50 U	88	383	513
MW-507	04/22/10	NA	NA	NA	NA	NA	290	50 U	91	406	512
MW-507	07/21/10	NA	NA	NA	NA	NA	330	50 U	80	435	511
MW-507	10/29/10	0.5 U	NA	NA	NA	0.012 UU	370	50 U	220	615	508
MW-507	06/17/11	NA	NA	NA	NA	NA	200	50 U	88	313	515
MW-507	12/16/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-507 (Duplicate)	12/16/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-507	06/29/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-507	12/19/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-507	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-507	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-507	06/19/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-507	12/11/14	0.2 U	NA	NA	NA	0.009 UU	29 U	50 U	68 U	74 UU	573
MW-507	06/25/15	NA	NA	NA	NA	NA	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-507	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-507	07/27/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-507 (Duplicate)	07/27/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-507	03/21/18	0.2 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-507	06/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-507	09/19/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-507 (Duplicate)	09/19/18	0.5 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-507	11/28/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-507	03/20/19	0.0 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-507	06/19/19	0.5 U	NA	NA	NA	0.008 UU	52 U	19 U	120 U	96 UU	519
MW-507 (Duplicate)	06/19/19	0.5 U	NA	NA	NA	0.008 UU	52 U	19 U	110 U	91 UU	520
MW-507	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-507 (Duplicate)	09/19/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-507	12/09/19	0.2 U	NA	NA	NA	0.030 UU	50 U	19 U	110 U	90 UU	521
MW-507	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-507	06/24/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-507	09/21/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-507	11/05/20	0.2 U	NA	NA	NA	0.009 UU	-- R	19 U	-- R	--	--
MW-507	03/03/21	0.2 U	NA	NA	NA	0.009 UU	50 UJ	19 U	110 UJ	90 UU	521
MW-507	06/24/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-507	08/26/21	0.3 U	NA	NA	NA	0.009 UU	49 UJ	19 U	110 U	89 UU	521
MW-507	11/03/21	0.3 U	NA	NA	NA	0.010 UU	54 U	19 U	120 U	97 UU	519
MW-509	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
MW-509	12/11/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-509	02/25/09	0.5 U	NA	NA	NA	0.008 UU	32 U	50 U	75 U	79 UU	568
MW-509	04/23/09	0.5 U	NA	NA	NA	0.007 UU	31 U	50 U	71 U	76 UU	570
MW-509	06/25/09	0.5 U	NA	NA	NA	0.007 UU	29	50 U	68 U	88	560
MW-509	08/21/09	0.5 U	NA	NA	NA	0.012 UU	46	50 U	70 U	106	549
MW-509	10/28/09	0.5 U	NA	NA	NA	0.012 UU	48	50 U	76 U	111	546
MW-509	01/20/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-509	04/21/10	NA	NA	NA	NA	NA	43	50 U	68 U	102	551
MW-509	07/21/10	NA	NA	NA	NA	NA	34	50 U	75 U	97	554
MW-509 (Duplicate)	07/21/10	NA	NA	NA	NA	NA	34	50 U	74 U	96	554
MW-509	10/28/10	0.5 U	NA	NA	NA	0.012 UU	40	50 U	76 U	103	550
MW-509	06/16/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-509	12/15/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-509	06/29/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-509	12/19/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-509	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-509	12/19/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-509	06/19/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-509 (Duplicate)	06/19/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-509	12/11/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-509	06/25/15	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-509 (Duplicate)	06/25/15	NA	NA	NA	NA	NA	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 UU	47 U	50 U	100 U	99 UU	553
MW-509	07/27/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-509	03/21/18	0.2 U	NA	NA	NA	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-509	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-509	09/19/18	0.5 U	NA	NA	NA	0.008 UU	82	19 U	110 U	147	512
MW-509	11/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-509	03/20/19	0.0 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-509	06/19/19	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-509	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-509	12/09/19	0.2 U	NA	NA	NA	0.008 UU	50 U	19 U	440	475	504
MW-509	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-509	06/25/20	0.2 U	NA	NA	NA	0.008 UU	140 B	19 U	100 U	200	509
MW-509	09/21/20	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-509	11/05/20	0.2 U	NA	NA	NA	0.008 UU	-- R	19 U	-- R	--	--
MW-509	03/02/21	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-509	06/21/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-509	08/24/21	0.3 U	NA	NA	NA	0.009 UU	45 U	19 U	100 U	82 UU	523
MW-509	11/03/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	110 U	88 UU	521
MW-511	10/24/08	0.50 U	0.50 U	0.50 U	1.00 U	0.008 UU	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 UU	243 U	50 U	485 U	389 UU	512
MW-511	02/25/09	0.5 U	NA	NA	NA	0.007 UU	30 U	50 U	70 U	75 UU	571
MW-511	04/21/09	0.5 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-511	06/24/09	0.5 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-511 (Duplicate)	06/24/09	0.5 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-511	08/19/09	0.5 U	NA	NA	NA	0.012 UU	32	50 U	74 U	94	555
MW-511	10/28/09	0.5 U	NA	NA	NA	0.012 UU	33	50 U	65 U	91	558
MW-511 (Duplicate)	10/28/09	0.5 U	NA	NA	NA	0.012 UU	28 U	50 U	65 U	72 UU	575
MW-511	01/20/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-511	04/22/10	NA	NA	NA	NA	NA	32 U	50 U	75 U	79 UU	568
MW-511	07/22/10	NA	NA	NA	NA	NA	72	50 U	67 U	131	539
MW-511	10/28/10	0.5 U	NA	NA	NA	0.012 UU	36	50 U	67 U	95	555
MW-511	06/17/11	NA	NA	NA	NA	NA	100	50 U	70 U	160	531
MW-511	12/19/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-511	06/28/12	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-511 (Duplicate)	06/28/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-511	12/14/12	0.2 U	NA	NA	NA	0.008 UU	44	50 U	240	309	516
MW-511	06/27/13	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-511	12/19/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-511 (Duplicate)	12/19/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	71 U	76 UU	570
MW-511	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-511	12/10/14	0.3	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-511	03/25/15	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-511	06/24/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-511 (Duplicate)	06/24/15	NA	NA	NA	NA	NA	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 UU	45 U	50 U	100 U	98 UU	553
MW-511	07/27/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-511	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-511	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-511	09/20/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-511	11/29/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-511	03/21/19	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-511	06/18/19	0.5 U	NA	NA	NA	0.008 UU	91 J	19 U	100 U	151	512
MW-511	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-511	12/09/19	0.2 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-511	03/10/20	0.2 U	NA	NA	NA	0.008 UU	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



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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-511	11/03/20	0.2 U	NA	NA	NA	0.009 UU	51 U	19 U	110 U	90 UU	521
MW-511	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 UJ	83 UU	522
MW-511	06/21/21	0.3 U	NA	NA	NA	0.009 UU	50 U	19 U	110 U	90 UU	521
MW-511	08/25/21	0.3 U	NA	NA	NA	0.009 UU	50 UJ	19 U	110 U	90 UU	521
MW-511	11/03/21	0.3 U	NA	NA	NA	0.009 UU	50 U	19 U	110 U	90 UU	521
MW-512	10/23/08	1.97	0.50 U	2.96	5.23	0.008 UU	250 U	348	500 U	723	610
MW-512	12/11/08	2.5	0.50 U	2.17	3.58	0.007 UU	243 U	320	485 U	684	606
MW-512	02/25/09	1.5	NA	NA	NA	0.007 UU	390	280	78	748	582
MW-512	04/21/09	2.7	NA	NA	NA	0.007 UU	260	240	67 U	534	601
MW-512 (Duplicate)	04/21/09	3.7	NA	NA	NA	0.007 UU	220	280	66 U	533	623
MW-512	06/24/09	0.8	NA	NA	NA	0.007 UU	180	84	78	342	551
MW-512	08/19/08	1.3	NA	NA	NA	0.012 UU	220	110	66 U	363	564
MW-512	10/27/09	0.6	NA	NA	NA	0.012 UU	190	92	67 U	316	561
MW-512	01/20/10	NA	NA	NA	NA	NA	300	200	75	575	575
MW-512	04/21/10	NA	NA	NA	NA	NA	420	110	140	670	533
MW-512	07/21/10	NA	NA	NA	NA	NA	150	82	67 U	266	565
MW-512	10/28/10	0.5 U	NA	NA	NA	0.012 UU	220	93	67 U	347	556
MW-512	06/16/11	NA	NA	NA	NA	NA	200	74	67 U	308	550
MW-512 (Duplicate)	06/16/11	NA	NA	NA	NA	NA	190	79	67 U	303	554
MW-512	12/15/11	0.40	NA	NA	NA	0.007 UU	33	120	68 U	187	658
MW-512	06/29/12	NA	NA	NA	NA	NA	57	190	68 U	281	670
MW-512	12/17/12	0.3	NA	NA	NA	0.008 UU	32	120	67 U	186	660
MW-512	06/26/13	NA	NA	NA	NA	NA	29 U	62	68 U	111	633
MW-512	12/18/13	0.2 U	NA	NA	NA	0.008 UU	44	140	67 U	218	659
MW-512	06/17/14	NA	NA	NA	NA	NA	48	110	68 U	192	637
MW-512	12/11/14	0.2 U	NA	NA	NA	0.008 UU	42	50 U	68 U	101	551
MW-512	06/24/15	NA	NA	NA	NA	NA	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 UU	62	90	100 U	202	600
MW-512	07/26/17	0.5 U	NA	NA	NA	0.008 UU	46 U	120	100 U	193	652
MW-512	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-512 (Duplicate)	03/21/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-512	06/28/18	0.5 U	NA	NA	NA	0.008 UU	50 U	50 U	110 U	105 UU	549
MW-512 (Duplicate)	06/28/18	0.5 U	NA	NA	NA	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-512	09/20/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-512	11/29/18	0.5 U	NA	NA	NA	0.017 UU	46 U	19 U	100 U	83 UU	523
MW-512	03/21/19	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-512	06/18/19	0.5 U	NA	NA	NA	0.008 UU	160	19 U	100 U	220	508
MW-512	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	45 J	100 U	118	583
MW-512	12/09/19	0.2 U	NA	NA	NA	0.008 UU	47 U	61 J	110 U	140	598
MW-512	03/10/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-512	06/25/20	0.2 U	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	0.008 UU	47 U	27 J	110 U	106	553
MW-512	11/03/20	0.2 U	NA	NA	NA	0.009 UU	51 U	57 J	110 U	138	592
MW-512	03/03/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	27 J	100 UJ	100	556
MW-512	06/24/21	0.3 U	NA	NA	NA	0.009 UU	47 U	50 J	100 U	124	589
MW-512	08/26/21	0.3 U	NA	NA	NA	0.009 UU	52 UJ	66 J	120 U	152	597
MW-512	11/03/21	0.3 U	NA	NA	NA	0.009 UU	47 U	57 J	110 U	136	594
MW-513	10/23/08	0.702	0.50 U	0.50 U	3.81	0.008 UU	245 U	564 JZ	490 U	932	647
MW-513	12/10/08	0.793	0.50 U	0.50 U	1.21	0.007 UU	245 U	439	490 U	807	628
MW-513	02/25/09	0.5 U	NA	NA	NA	0.008 UU	330	470	72.00 U	836	634
MW-513 (Duplicate)	02/25/09	5 U	NA	NA	NA	0.008 UU	300	440	74.00 U	777	635

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-513	04/22/09	0.5 U	NA	NA	NA	0.007 UU	290	330	66 U	653	617
MW-513	06/24/09	0.5 U	NA	NA	NA	0.007 UU	170	280	75 U	488	637
MW-513	08/20/09	0.5 U	NA	NA	NA	0.013 UU	290	280	75 U	608	604
MW-513	10/27/09	0.5 U	NA	NA	NA	0.013 UU	320	180	68 U	534	572
MW-513 (Duplicate)	10/27/09	5 U	NA	NA	NA	0.012 UU	320	240	68 U	594	589
MW-513	01/20/10	NA	NA	NA	NA	NA	300	210	67 U	544	585
MW-513	04/21/10	NA	NA	NA	NA	NA	290	160	74 U	487	570
MW-513	07/21/10	NA	NA	NA	NA	NA	360	140	67 U	534	555
MW-513	10/28/10	0.50 U	NA	NA	NA	0.013 UU	270	150	74 U	457	570
MW-513 (Duplicate)	10/28/10	0.50 U	NA	NA	NA	0.013 UU	290	160	67 U	484	571
MW-513	06/16/11	NA	NA	NA	NA	NA	230	100	67 U	364	558
MW-513	12/15/11	0.3	NA	NA	NA	0.007 UU	38	97	67 U	169	638
MW-513	06/29/12	NA	NA	NA	NA	NA	62	59	75 U	159	581
MW-513	12/17/12	0.2 U	NA	NA	NA	0.008 UU	28 U	65	66 U	112	639
MW-513	06/26/13	NA	NA	NA	NA	NA	52	110	68 U	196	633
MW-513	12/18/13	0.2 U	NA	NA	NA	0.008 UU	50	120	66 U	203	642
MW-513	06/17/14	NA	NA	NA	NA	NA	47	72	67 U	153	608
MW-513	12/10/14	0.5 U	NA	NA	NA	0.008 UU	52	50 U	66 U	110	547
MW-513	06/24/15	NA	NA	NA	NA	NA	35	75	66 U	143	622
MW-513 (Duplicate)	06/24/15	NA	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	0.008 UU	47 U	97	100 U	171	636
MW-513	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	110	100 U	183	646
MW-513	03/21/18	0.2 U	NA	NA	NA	0.008 UU	240	50 U	100 U	315	515
MW-513	06/28/18	0.5 U	NA	NA	NA	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-513	09/20/18	0.5 U	NA	NA	NA	0.008 UU	46 HU	19 U	100 HU	83 UU	523
MW-513	11/29/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-513	03/21/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-513	06/17/19	0.5 U	NA	NA	NA	0.008 UU	47 U	22 J	100 U	96	547
MW-513	09/18/19	0.2 U	NA	NA	NA	0.008 UU	45 U	50 J	100 U	123	590
MW-513	12/09/19	0.2 U	NA	NA	NA	0.008 UU	46 U	29 J	100 U	102	560
MW-513	03/10/20	0.2 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-513	06/25/20	0.2 U	NA	NA	NA	0.009 UU	47 U	39 J	100 U	113	575
MW-513	09/22/20	0.2 U	NA	NA	NA	0.008 UU	50 U	52 J	110 U	132	587
MW-513	11/04/20	0.2 U	NA	NA	NA	0.009 UU	52 U	19 UB	110 U	91 UU	520
MW-513	03/03/21	0.2 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-513	06/21/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	110 U	88 UU	521
MW-513	08/25/21	0.3 U	NA	NA	NA	0.009 UU	45 UJ	28 J	100 U	101	558
MW-513	11/01/21	0.3 U	NA	NA	NA	0.009 UU	45 U	45 J	99 U	117	584
MW-514	10/23/08	2.98	0.64	1.54	4.69	0.007 UU	253	1020 JZ	490 U	1,518	668
MW-514	12/10/08	3.15	0.84	1.82	4.98	0.007 UU	248 U	801	495 U	1,173	672
MW-514 (Duplicate)	12/10/08	3.40	0.82	1.89	4.95	0.008 UU	245 U	831	490 U	1,199	676
MW-514	02/24/09	2.9	NA	NA	NA	0.008 UU	710	830	75 U	1,578	623
MW-514	04/21/09	3.5	NA	NA	NA	0.015 UU	370	680	69 U	1,085	654
MW-514	06/24/09	2	NA	NA	NA	0.007 UU	280	510	70 U	825	651
MW-514	08/19/09	3.2	NA	NA	NA	0.012 UU	290	520	73 U	847	650
MW-514 (Duplicate)	08/19/09	2.7	NA	NA	NA	0.013 UU	270	450	70 U	755	644
MW-514	10/27/09	2.2	NA	NA	NA	0.012 UU	400	400	66 U	833	610
MW-514	01/20/10	NA	NA	NA	NA	NA	200	340	69 U	575	643
MW-514	04/21/10	NA	NA	NA	NA	NA	340	270	71 U	646	593
MW-514	07/21/10	NA	NA	NA	NA	NA	420	170	67 U	624	557
MW-514	10/27/10	1.5	NA	NA	NA	0.012 UU	250	290	70 U	575	617

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



Monitoring Well	Date Sampled	BTEX <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
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	
MW-514	06/29/12	NA	NA	NA	NA	42	97	67 U	173	634	
MW-514	12/17/12	0.5	NA	NA	NA	29 U	84	67 U	132	657	
MW-514 (Duplicate)	12/17/12	0.7	NA	NA	NA	34	92	66 U	159	639	
MW-514	06/26/13	NA	NA	NA	NA	31	140	71 U	207	670	
MW-514	12/18/13	0.2 U	NA	NA	NA	29 U	100	67 U	148	670	
MW-514	06/17/14	NA	NA	NA	NA	43	76	66 U	152	615	
MW-514	12/11/14	0.2 U	NA	NA	NA	33	50 U	69 U	93	556	
MW-514	06/24/15	NA	NA	NA	NA	32	50 U	68 U	91	557	
MW-514 (Duplicate)	06/24/15	NA	NA	NA	NA	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 U	98 UU	553	
MW-514	07/27/17	0.5 U	NA	NA	NA	47 U	50 U	110 U	104 UU	550	
MW-514	03/21/18	0.2 U	NA	NA	NA	45 U	50 U	100 U	98 UU	553	
MW-514	06/28/18	0.5 U	NA	NA	NA	49 U	50 U	110 U	105 UU	549	
MW-514	09/20/18	0.5 U	NA	NA	NA	45 HU	19 U	100 HU	82 UU	523	
MW-514	11/29/18	0.5 U	NA	NA	NA	45 U	19 U	100 U	82 UU	523	
MW-514	03/21/19	0.5 U	NA	NA	NA	45 U	19 U	100 U	82 UU	523	
MW-514	06/18/19	0.5 U	NA	NA	NA	140	19 U	100 U	200	509	
MW-514	09/19/19	0.2 U	NA	NA	NA	45 U	37 J	100 U	110	573	
MW-514	12/09/19	0.2 U	NA	NA	NA	49 U	38 J	110 U	118	569	
MW-514	03/10/20	0.2 U	NA	NA	NA	47 U	19 U	100 U	83 UU	522	
MW-514	06/25/20	0.2 U	NA	NA	NA	47 U	37 J	110 U	116	568	
MW-514	09/22/20	0.2 U	NA	NA	NA	47 U	60 J	100 U	134	601	
MW-514	11/05/20	0.2 U	NA	NA	NA	-- R	34 J	-- R	--	--	
MW-514	03/03/21	0.2 U	NA	NA	NA	48 U	29 J	110 U	108	556	
MW-514	06/24/21	0.3 U	NA	NA	NA	46 U	29 J	100 U	102	560	
MW-514	08/25/21	0.3 U	NA	NA	NA	46 UU	29 J	100 U	102	560	
MW-514	11/01/21	0.3 U	NA	NA	NA	45 U	50 J	100 U	123	590	
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	NA	71	69	68 U	174	587	
MW-515	04/22/09	0.5 U	NA	NA	NA	77	59	69 U	171	575	
MW-515	06/24/09	0.5 U	NA	NA	NA	170	85	76 U	293	561	
MW-515	08/20/09	0.5 U	NA	NA	NA	200	63	75 U	301	543	
MW-515 (Duplicate)	08/20/09	0.5 U	NA	NA	NA	340	110	75 U	488	546	
MW-515	10/27/09	0.5 U	NA	NA	NA	79	50 U	70 U	139	536	
MW-515	01/20/10	NA	NA	NA	NA	34	50 U	69 U	94	556	
MW-515	04/21/10	NA	NA	NA	NA	32	50 U	67 U	91	558	
MW-515	07/21/10	NA	NA	NA	NA	120	50 U	66 U	178	528	
MW-515	10/27/10	0.5 U	NA	NA	NA	52	50 U	67 U	111	546	
MW-515	06/16/11	NA	NA	NA	NA	200	50 U	67 U	259	519	
MW-515	12/14/11	0.2 U	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-515	06/29/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-515	12/17/12	0.2 U	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-515	06/27/13	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-515	12/18/13	0.2 U	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-515	06/19/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-515	12/11/14	0.2 U	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-515	06/25/15	NA	NA	NA	NA	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-515	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-515	07/25/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-515	03/21/18	0.2 U	NA	NA	NA	0.008 UU	50 U	50 U	110 U	105 UU	549
MW-515	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-515	09/19/18	0.5 U	NA	NA	NA	0.008 UU	120	19 U	110 U	185	510
MW-515	11/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-515 (Duplicate)	11/28/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-515	03/21/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-515	06/17/19	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-515	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	37 J	100 U	110	572
MW-515	12/09/19	0.2 U	NA	NA	NA	0.008 UU	47 U	37 J	100 U	111	572
MW-515	03/09/20	0.2 U	NA	NA	NA	0.008 UU	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	NA	0.009 UU	48 U	25 J	110 U	104	550
MW-515	11/05/20	0.2 U	NA	NA	NA	0.010 UU	-- R	36 J	-- R	--	--
MW-515	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	37 J	100 UJ	111	572
MW-515	06/24/21	0.3 U	NA	NA	NA	0.009 UU	46 U	23 J	100 U	96	549
MW-515	08/24/21	0.3 U	NA	NA	NA	0.009 UU	46 U	32 J	100 U	105	565
MW-515	11/02/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-516	10/22/08	0.779	0.711	0.50 U	3.96	0.007 UU	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	0.007 UU	243 U	114	485 U	478	549
MW-516	02/24/09	0.5 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-516	04/22/09	0.5 U	NA	NA	NA	0.008 UU	31 U	50 U	73 U	77 UU	569
MW-516	06/24/09	0.5 U	NA	NA	NA	0.007 UU	210	50 U	69 U	270	518
MW-516	08/20/09	0.5 U	NA	NA	NA	0.013 UU	260	50 U	75 U	323	515
MW-516	10/27/09	0.5 U	NA	NA	NA	0.012 UU	140	50 U	67 U	199	525
MW-516	01/20/10	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-516	04/21/10	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-516	07/21/10	NA	NA	NA	NA	NA	150	50 U	67 U	209	524
MW-516	10/27/10	0.50 U	NA	NA	NA	0.012 UU	49	50 U	67 U	108	548
MW-516 (Duplicate)	10/27/10	0.5 U	NA	NA	NA	0.012 UU	40	50 U	66 U	98	553
MW-516	06/16/11	NA	NA	NA	NA	NA	170	50 U	67 U	229	521
MW-516	12/14/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	69 U	74 UU	573
MW-516	06/29/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-516	12/17/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-516	06/27/13	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-516	12/18/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-516	06/19/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-516 (Duplicate)	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-516	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-516	06/25/15	NA	NA	NA	NA	NA	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	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-516	07/25/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-516 (Duplicate)	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-516	03/21/18	0.2 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-516	06/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-516	09/19/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-516	11/29/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-516	03/21/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-516	06/17/19	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-516	09/18/19	0.2 U	NA	NA	NA	0.008 UU	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-516	12/09/19	0.2 U	NA	NA	NA	0.008 UU	51 U	19 U	110 U	90 UU	521
MW-516	03/09/20	0.2 U	NA	NA	NA	0.008 UU	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	0.2 U	NA	NA	NA	0.009 UU	-- R	19 U	-- R	--	--
MW-516	03/03/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	19 U	100 UJ	83 UU	523
MW-516	06/24/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-516	08/24/21	0.3 U	NA	NA	NA	0.009 UU	46 U	21 J	100 U	94	546
MW-516	11/03/21	0.3 U	NA	NA	NA	0.011 UU	46 U	19 U	100 U	83 UU	523
MW-517	10/22/08	1.24	0.50 U	0.884	1.56	0.008 UU	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	0.007 UU	240 U	130	481 U	491	555
MW-517	02/24/09	0.5 U	NA	NA	NA	0.008 UU	50	50 U	72 U	111	546
MW-517	04/22/09	0.5 U	NA	NA	NA	0.008 UU	100	50 U	71 U	161	531
MW-517	06/24/09	0.5 U	NA	NA	NA	0.007 UU	460	50 U	86	571	508
MW-517	08/20/09	0.5 U	NA	NA	NA	0.012 UU	230	120	69 U	385	566
MW-517	10/27/09	0.5 U	NA	NA	NA	0.012 UU	160	54	73 U	251	544
MW-517	01/20/10	NA	NA	NA	NA	NA	40	50 U	69 U	100	552
MW-517	04/21/10	NA	NA	NA	NA	NA	75	50 U	67 U	134	538
MW-517 (Duplicate)	04/21/10	NA	NA	NA	NA	NA	94	50 U	70 U	154	532
MW-517	07/20/10	NA	NA	NA	NA	NA	200	50 U	66 U	258	519
MW-517	10/27/10	0.5 U	NA	NA	NA	0.012 UU	77	50 U	72 U	138	536
MW-517	06/16/11	NA	NA	NA	NA	NA	89	50 U	67 U	148	534
MW-517	12/14/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-517	06/29/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-517	12/17/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-517	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-517	12/18/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-517	06/19/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-517	12/11/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-517	06/25/15	NA	NA	NA	NA	NA	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	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-517	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	61	100 U	134	603
MW-517	03/21/18	0.2 U	NA	NA	NA	0.008 UU	49 U	50 U	110 U	105 UU	549
MW-517	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-517	09/19/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-517	11/29/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-517	03/21/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-517 (Duplicate)	03/21/19	0.5 U	NA	NA	NA	0.008 UU	62 J	19 U	100 U	122	515
MW-517	06/17/19	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-517	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	31 J	100 U	104	563
MW-517	12/09/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-517	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-517	06/25/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-517	09/23/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-517	11/06/20	0.2 U	NA	NA	NA	0.009 UU	50 U	20 J	110 U	100	541
MW-517	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	27 J	100 UJ	101	556
MW-517	06/24/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-517	08/25/21	0.3 U	NA	NA	NA	0.009 UU	46 UJ	19 J	100 U	92	542
MW-517	11/03/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-518*	10/22/08	0.503	0.50 U	0.50 U	1.92	0.008 UU	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	0.007 UU	245 U	796 JZ	490 U	1,164	673

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-518*	02/25/09	0.5 U	NA	NA	NA	0.007 UU	450	880	73	1,403	654
MW-518*	04/22/09	0.5 U	NA	NA	NA	0.007 UU	480	650	72	1,202	627
MW-518*	06/25/09	0.5 U	NA	NA	NA	0.007 UU	200	440	70 U	675	662
MW-518*	08/20/09	0.5 U	NA	NA	NA	0.013 UU	300	730	71 U	1,066	673
MW-518*	10/30/09	0.5 U	NA	NA	NA	0.013 UU	310	660	74 U	1,007	663
MW-518*	01/20/10	NA	NA	NA	NA	NA	230	660	67 U	924	683
MW-518*	04/21/10	NA	NA	NA	NA	NA	240	630	75 U	908	676
MW-518*	07/21/10	NA	NA	NA	NA	NA	310	350	73 U	697	616
MW-518* (Duplicate)	07/21/10	NA	NA	NA	NA	NA	400	270	78 U	709	583
MW-518*	10/28/10	0.5 U	NA	NA	NA	0.012 UU	290	600	67 U	924	661
MW-518*	03/23/11	NA	NA	NA	NA	NA	390	330	68 U	754	598
MW-518*	06/16/11	NA	NA	NA	NA	NA	200	140	67 U	374	582
MW-518*	09/27/11	NA	NA	NA	NA	NA	66	230	68 U	330	677
MW-518*	12/14/11	0.2 U	NA	NA	NA	0.007 UU	40	440	67 U	514	737
MW-518*	03/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-518*	06/29/12	NA	NA	NA	NA	NA	29 U	93	69 U	142	663
MW-518*	09/27/12	NA	NA	NA	NA	NA	59	240	68 U	333	685
MW-518*	12/17/12	0.2 U	NA	NA	NA	0.008 UU	29 U	180	69 U	229	709
MW-518*	03/27/13	NA	NA	NA	NA	NA	48	510	66 U	591	739
MW-518*	06/27/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-518*	09/25/13	NA	NA	NA	NA	NA	79 U	50 U	69 U	99 UU	552
MW-518*	12/19/13	0.2 U	NA	NA	NA	0.008 UU	78	860	71 U	974	748
MW-518*	03/28/14	NA	NA	NA	NA	NA	29 U	110	68 U	159	676
MW-518*	06/18/14	NA	NA	NA	NA	NA	28 U	63	66 U	110	637
MW-518* (Duplicate)	06/18/14	NA	NA	NA	NA	NA	28 U	62	66 U	109	636
MW-518*	10/01/14	NA	NA	NA	NA	NA	68	260	72 U	364	683
MW-518*	12/11/14	0.2 U	NA	NA	NA	0.008 UU	43	290	66 U	366	711
MW-518*	03/25/15	NA	NA	NA	NA	NA	39	390	67 U	463	731
MW-518*	06/25/15	NA	NA	NA	NA	NA	59	600	66 U	692	741
MW-518*	10/25/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	46 U	990	100 U	1,063	768
MW-518*	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	190	100 U	263	686
MW-518*	03/21/18	0.2 U	NA	NA	NA	0.008 UU	48 U	220	110 U	299	691
MW-518*	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	690	100 U	764	756
MW-518* (Duplicate)	06/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	630	100 U	704	753
MW-518*	09/19/18	0.5 U	NA	NA	NA	0.008 UU	47 U	370	100 U	444	728
MW-518*	11/28/18	0.5 U	NA	NA	NA	0.008 UU	47 U	840	110 U	919	761
MW-518*	02/07/19	0.0 U	NA	NA	NA	0.008 UU	46 U	340	100 U	413	723
MW-518*	03/20/19	0.0 U	NA	NA	NA	0.008 UU	47 U	480	100 U	554	741
MW-518*	06/18/19	0.5 U	NA	NA	NA	0.013 UU	290	760	100 U	1,100	675
MW-518*	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	520	100 U	593	745
MW-518* (Duplicate)	09/18/19	0.2 U	NA	NA	NA	0.008 UU	47 U	490	100 U	564	742
MW-518*	12/09/19	0.2 U	NA	NA	NA	0.008 UU	52 U	820	120 U	906	757
MW-518* (Duplicate)	12/09/19	0.2 U	NA	NA	NA	0.008 UU	50 U	840	110 U	920	760
MW-518*	03/09/20	0.2 U	NA	NA	NA	0.008 UU	45 U	430	100 U	503	736
MW-518* (Duplicate)	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	440	100 U	513	737
MW-518*	06/24/20	0.2 U	NA	NA	NA	0.009 UU	87 J	930	110 U	1,072	741
MW-518* (Duplicate)	06/24/20	0.2 U	NA	NA	NA	0.008 UU	98 J	950	110 U	1,103	739
MW-518*	09/23/20	0.2 U	NA	NA	NA	0.008 UU	48 U	590	110 U	669	747
MW-518* (Duplicate)	09/23/20	0.2 U	NA	NA	NA	0.008 UU	47 U	560	100 U	634	748
MW-518*	11/05/20	0.2 U	NA	NA	NA	0.009 UU	-- R	720	-- R	--	--
MW-518* (Duplicate)	11/05/20	0.2 U	NA	NA	NA	0.008 UU	56 J	760	-- 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-518*	03/01/21	0.2 U	NA	NA	NA	0.009 UU	52 J	720	110 U	827	742
MW-518* (Duplicate)	03/01/21	0.2 U	NA	NA	NA	0.009 UU	49 U	730	110 U	810	755
MW-518*	06/24/21	0.3 U	NA	NA	NA	0.009 UU	50 U	580	110 U	660	746
MW-518* (Duplicate)	06/24/21	0.3 U	NA	NA	NA	0.009 UU	53 J	520	120 U	633	723
MW-518*	08/26/21	0.3 U	NA	NA	NA	0.009 UU	68 J	870	110 U	993	745
MW-518*	11/03/21	0.3 U	NA	NA	NA	0.009 UU	47 U	320	100 U	394	719
MW-518* (Duplicate)	11/03/21	0.3 U	NA	NA	NA	0.009 UU	48 U	260	110 U	339	702
MW-519	10/22/08	0.5 U	0.5 U	0.5 U	1.00 U	0.008 UU	248 U	80	495 U	451	536
MW-519 (Duplicate)	10/22/08	5 U	5 U	5 U	1.00 U	0.007 UU	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 UU	250 U	64.1	500 U	439	529
MW-519	02/24/09	0.5 U	NA	NA	NA	0.008 UU	83	50 U	71 U	144	535
MW-519	04/21/09	0.5 U	NA	NA	NA	0.008 UU	150	50 U	74 U	212	523
MW-519	06/24/09	0.5 U	NA	NA	NA	0.007 UU	220	50 U	70 U	280	517
MW-519	08/18/09	0.5 U	NA	NA	NA	0.013 UU	290	50 U	75 U	353	514
MW-519 (Duplicate)	08/18/09	0.5 U	NA	NA	NA	0.119 UU	250	50 U	72 U	311	516
MW-519	10/27/09	0.5 U	NA	NA	NA	0.013 UU	58	50 U	66 U	116	544
MW-519	01/19/10	NA	NA	NA	NA	NA	170	50 U	67 U	229	521
MW-519	04/21/10	NA	NA	NA	NA	NA	82	50 U	71 U	143	535
MW-519	07/20/10	NA	NA	NA	NA	NA	290	50 U	67 U	349	514
MW-519	10/26/10	0.50 U	NA	NA	NA	0.012 UU	43	50 U	73 U	105	549
MW-519 (Duplicate)	10/26/10	0.50 U	NA	NA	NA	0.012 UU	54	50 U	79 U	119	543
MW-519	06/15/11	NA	NA	NA	NA	NA	260	50 U	68 U	319	515
MW-519	12/14/11	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-519	06/28/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-519	12/17/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-519	06/25/13	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-519	12/17/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-519	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-519	12/10/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	65 U	72 UU	575
MW-519	06/24/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-519	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-519	07/25/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-519	03/22/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-519 (Duplicate)	03/22/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-519	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-519	09/18/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-519	11/29/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-519	03/21/19	0.5 U	NA	NA	NA	0.008 UU	87 J	19 U	100 U	147	512
MW-519	06/19/19	0.5 U	NA	NA	NA	0.008 UU	52 U	19 U	120 U	96 UU	519
MW-519	09/19/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-519	12/11/19	0.2 U	NA	NA	NA	0.008 UU	120	19 U	110 U	185	510
MW-519	03/09/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-519	06/24/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-519	09/23/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-519	11/05/20	0.2 U	NA	NA	NA	0.009 UU	-- R	19 U	-- R	--	--
MW-519	03/04/21	0.2 U	NA	NA	NA	0.009 UU	50 UJ	19 U	110 UJ	90 UU	521
MW-519	06/23/21	0.3 U	NA	NA	NA	0.011 UJB	46 U	19 U	100 U	83 UU	523
MW-519	08/25/21	0.3 U	NA	NA	NA	0.009 UU	52 UJ	19 U	120 U	96 UU	519
MW-519	11/01/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-520	10/21/08	1.45	0.50 U	0.50 U	1.00 U	0.008 UU	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 UU	243 U	125	485 U	489	553

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-520	02/23/09	1.6	NA	NA	NA	0.008 UU	160	110	76 U	308	577
MW-520	04/22/09	7.6	NA	NA	NA	0.007 UU	110	50 U	66 U	168	530
MW-520 (Duplicate)	04/22/09	7.3	NA	NA	NA	0.007 UU	110	50 U	67 U	169	529
MW-520	06/24/09	0.5	NA	NA	NA	0.007 UU	180	50 U	69 U	240	520
MW-520	08/18/09	0.5 U	NA	NA	NA	0.012 UU	140	50 U	72 U	201	524
MW-520	10/27/09	0.5 U	NA	NA	NA	0.012 UU	130	50 U	73 U	192	526
MW-520	01/19/10	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-520	04/20/10	NA	NA	NA	NA	NA	52	50 U	68 U	111	546
MW-520	07/20/10	NA	NA	NA	NA	NA	320	50 U	67 U	379	513
MW-520	10/27/10	0.5 U	NA	NA	NA	0.012 UU	110	50 U	66 U	168	530
MW-520	06/15/11	NA	NA	NA	NA	NA	120	50 U	67 U	179	528
MW-520	12/14/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-520	06/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-520	12/14/12	0.2 U	NA	NA	NA	0.008 UU	28	50 U	110	163	531
MW-520	06/25/13	NA	NA	NA	NA	NA	29 U	62	67 U	110	634
MW-520 (Duplicate)	06/25/13	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-520	12/17/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-520	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-520	12/10/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-520	06/24/15	NA	NA	NA	NA	NA	28 U	50 U	65 U	72 UU	575
MW-520	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-520	07/25/17	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-520	03/20/18	0.2 U	NA	NA	NA	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-520	06/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-520	09/18/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-520	11/29/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-520	03/22/19	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-520	06/19/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-520	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	22 J	100 U	95	548
MW-520	12/12/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-520	03/09/20	0.2 U	NA	NA	NA	0.008 UU	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	0.2 U	NA	NA	NA	0.009 UU	-- R	19 U	-- R	--	--
MW-520	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 UJ	83 UU	522
MW-520	06/23/21	0.3 U	NA	NA	NA	0.009 UU	47 U	30 J	100 U	104	561
MW-520	08/26/21	0.3 U	NA	NA	NA	0.010 UU	51 UJ	19 U	110 U	90 UU	521
MW-520	11/03/21	0.3 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-521	10/21/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	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 UU	250 U	98.4	500 U	473	542
MW-521	02/23/09	1.7	NA	NA	NA	0.008 UU	90	50 U	78 U	154	532
MW-521	04/21/09	0.5 U	NA	NA	NA	0.008 UU	31 U	50 U	73 U	77 UU	569
MW-521	06/23/09	0.5 U	NA	NA	NA	0.008 UU	47	50 U	71 U	108	548
MW-521	08/19/09	0.5 U	NA	NA	NA	0.012 UU	45	50 U	71 U	106	549
MW-521	10/26/09	0.5 U	NA	NA	NA	0.012 UU	120	50 U	69 U	180	528
MW-521 (Duplicate)	10/26/09	0.5 U	NA	NA	NA	0.012 UU	78	50 U	74 U	140	536
MW-521	01/19/10	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-521	04/20/10	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-521	07/20/10	NA	NA	NA	NA	NA	70	50 U	67 U	129	539
MW-521	10/27/10	0.5 U	NA	NA	NA	0.013 UU	77	50 U	72 U	138	536
MW-521	06/15/11	NA	NA	NA	NA	NA	47	50 U	67 U	106	549



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



Monitoring Well	Date Sampled	BTEX <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-521	12/14/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-521	06/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-521	12/17/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-521	06/25/13	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-521	12/17/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-521	06/18/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-521	12/10/14	0.3	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-521	06/24/15	NA	NA	NA	NA	NA	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 UU	48 U	50 U	110 U	104 UU	550
MW-521	07/25/17	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-521	03/20/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-521	06/28/18	0.5 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-521	09/18/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-521	11/30/18	0.5 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-521	03/22/19	0.5 U	NA	NA	NA	0.008 UU	75 J	19 U	100 U	135	514
MW-521 (Duplicate)	03/22/19	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-521	06/19/19	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-521	09/18/19	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-521	12/11/19	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-521	03/09/20	0.2 U	NA	NA	NA	0.008 UU	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	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	110 U	88 UU	521
MW-521	03/04/21	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-521	06/23/21	0.3 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-521	08/26/21	0.3 U	NA	NA	NA	0.009 UU	47 UJ	19 U	110 U	88 UU	521
MW-521	11/03/21	0.3 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-522*	10/21/08	1.46	0.50 U	0.50 U	1.41	0.036 UU	250 U	534 JZ	500 U	909	641
MW-522*	12/09/08	0.782	0.5 U	0.5 U	1.00 U	0.007 UU	245 U	183	490 U	551	571
MW-522* (Duplicate)	12/09/08	0.805	5 U	5 U	1.00 U	0.008 UU	245 U	186	490 U	554	572
MW-522*	02/23/09	0.5 U	NA	NA	NA	0.007 UU	490	160	71 U	686	548
MW-522*	04/21/09	0.5 U	NA	NA	NA	0.008 UU	620	62	97	779	515
MW-522*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	330	100	67 U	464	544
MW-522*	08/18/09	0.5	NA	NA	NA	0.012 UU	300	94	67 U	428	545
MW-522*	10/26/09	0.5	NA	NA	NA	0.012 UU	650	50 U	280	955	505
MW-522*	01/19/10	NA	NA	NA	NA	NA	39	50 U	66 U	97	553
MW-522*	04/20/10	NA	NA	NA	NA	NA	220	50 U	81 U	286	517
MW-522*	07/20/10	NA	NA	NA	NA	NA	470	50 U	76 U	533	509
MW-522*	10/26/10	0.5 U	NA	NA	NA	0.012 UU	260	50 U	66 U	318	515
MW-522*	03/22/11	NA	NA	NA	NA	NA	150	50 U	66 U	208	524
MW-522*	06/15/11	NA	NA	NA	NA	NA	380	50 U	72 U	441	511
MW-522*	09/27/11	NA	NA	NA	NA	NA	29	50 U	67 U	88	560
MW-522* (Duplicate)	09/27/11	NA	NA	NA	NA	NA	42	50 U	66 U	100	552
MW-522*	12/14/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-522*	03/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-522*	06/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-522*	09/26/12	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-522*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	41	50 U	140	206	524
MW-522*	03/26/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-522* (Duplicate)	03/26/13	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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-522*	06/25/13	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-522*	09/25/13	NA	NA	NA	NA	36 U	50 U	70 U	78 UU	568	
MW-522*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	72 U	77 UU	570
MW-522*	03/26/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-522*	06/18/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-522*	10/01/14	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571	
MW-522* (Duplicate)	10/01/14	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-522*	12/10/14	0.3	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-522*	03/26/15	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-522* (Duplicate)	03/26/15	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573	
MW-522*	06/24/15	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-522*	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-522*	07/25/17	0.5 U	NA	NA	NA	0.008 UU	80	50 U	700	805	506
MW-522*	03/20/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-522*	06/28/18	0.5 U	NA	NA	NA	0.008 UU	50 U	50 U	110 U	105 UU	549
MW-522*	09/18/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-522*	11/29/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-522*	03/21/19	0.5 U	NA	NA	NA	0.008 UU	190	19 U	100 U	250	507
MW-522*	06/18/19	0.5 U	NA	NA	NA	0.008 UU	510	19 U	120 U	580	503
MW-522*	09/17/19	0.2 U	NA	NA	NA	0.008 UU	61 U	20 J	140 U	121	533
MW-522*	12/12/19	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	170 J	203	509
MW-522* (Duplicate)	12/12/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-522*	03/09/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-522*	06/30/20	0.2 U	NA	NA	NA	0.008 UU	46 U	110 J	240 JB	373	562
MW-522*	09/23/20	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-522*	11/06/20	0.2 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-522*	03/03/21	0.2 U	NA	NA	NA	0.009 UU	47 UJ	19 U	110 UJ	88 UU	521
MW-522*	06/24/21	0.3 U	NA	NA	NA	0.009 UU	46 U	20 J	100 U	93	544
MW-522*	08/25/21	0.3 U	NA	NA	NA	0.009 UU	47 UJ	19 U	100 U	83 UU	522
MW-522*	11/01/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-523*	10/21/08	0.50 U	0.50 U	0.50 U	1.00 U	0.007 UU	245 U	63	490 U	431	529
MW-523*	12/09/08	0.50 U	0.50 U	0.50 U	1.00 U	0.008 UU	248 U	50 U	495 U	397 UU	512
MW-523*	02/23/09	0.5 U	NA	NA	NA	0.007 UU	32	50 U	68 U	91	557
MW-523*	04/21/09	0.5 U	NA	NA	NA	0.007 UU	30 U	50 U	69 U	75 UU	572
MW-523*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	39	50 U	68 U	98	553
MW-523* (Duplicate)	06/23/09	0.5 U	NA	NA	NA	0.008 UU	78	50 U	68 U	137	537
MW-523*	08/18/09	0.5 U	NA	NA	NA	0.012 UU	140	50 U	66 U	198	525
MW-523*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	120	50 U	66 U	178	528
MW-523*	01/19/10	NA	NA	NA	NA	NA	32	50 U	69 U	92	557
MW-523*	04/20/10	NA	NA	NA	NA	NA	35 U	50 U	83 U	84 UU	563
MW-523*	07/20/10	NA	NA	NA	NA	NA	61	50 U	80 U	126	540
MW-523*	10/26/10	0.5 U	NA	NA	NA	0.013 UU	160	50 U	74 U	222	522
MW-523*	03/22/11	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-523*	06/15/11	NA	NA	NA	NA	NA	73	50 U	67 U	132	538
MW-523*	09/27/11	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-523*	12/13/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-523*	03/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-523*	06/28/12	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-523*	09/26/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-523* (Duplicate)	09/26/12	NA	NA	NA	NA	NA	31 U	50 U	71 U	76 UU	570
MW-523*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	71 U	76 UU	571

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-523*	03/26/13	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573	
MW-523*	06/25/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-523*	09/25/13	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-523*	12/17/13	0.2 U	NA	NA	NA	30 U	50 U	160	200	525	
MW-523*	03/27/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-523* (Duplicate)	03/27/14	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-523*	06/18/14	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-523*	09/30/14	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-523*	12/10/14	0.3	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-523*	03/25/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-523*	06/23/15	NA	NA	NA	NA	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	0.007 UU	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	0.007 UU	243 U	50 U	485 U	389 UU	512
MW-524*	02/23/09	0.5 U	NA	NA	NA	0.008 UU	32 U	50 U	74 U	78 UU	568
MW-524*	04/21/09	0.5 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-524*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	29 U	50 U	67 U	73 UU	574
MW-524*	08/18/09	0.5 U	NA	NA	NA	0.012 UU	29 U	50 U	67 U	73 UU	574
MW-524*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	270	50 U	150	445	511
MW-524*	01/19/10	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571	
MW-524*	04/20/10	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-524*	07/20/10	NA	NA	NA	NA	32 U	50 U	75 U	79 UU	568	
MW-524*	10/26/10	0.5 U	NA	NA	NA	0.012 UU	28 U	50 U	66 U	72 UU	575
MW-524*	03/22/11	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-524*	06/17/11	NA	NA	NA	NA	36	50 U	67 U	95	555	
MW-524*	09/27/11	NA	NA	NA	NA	29 U	50 U	67.0 U	73 UU	574	
MW-524*	12/13/11	0.2 U	NA	NA	NA	0.007 UU	29 U	50 U	68 U	74 UU	573
MW-524*	03/28/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-524*	06/28/12	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571	
MW-524*	09/26/12	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-524*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-524* (Duplicate)	12/14/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-524*	03/26/13	NA	NA	NA	NA	32 U	50 U	74 U	78 UU	568	
MW-524*	06/25/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-524*	09/24/13	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-524*	06/25/13	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-524*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-524*	03/28/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-524*	06/18/14	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574	
MW-524*	09/30/14	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572	
MW-524*	12/09/14	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	71 U	76 UU	570
MW-524*	03/25/15	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573	
MW-524*	06/23/15	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575	
MW-525	06/29/12	NA	NA	NA	NA	330	13,000	66 U	13,363	787	
MW-525 (Duplicate)	06/29/12	NA	NA	NA	NA	360	11,000	68 U	11,394	784	
MW-525	12/14/12	5,900	NA	NA	NA	0.012 UU	380	23,000	72 U	23,416	792
MW-525	06/26/13	980	NA	NA	NA	150	5,800	68 U	5,984	786	
MW-525 (Duplicate)	06/26/13	NA	NA	NA	NA	130	5,400	68 U	5,564	786	
MW-525	12/17/13	990	NA	NA	NA	0.008 UU	140	4,000	69 U	4,175	780
MW-525	06/17/14	NA	NA	NA	NA	180	7,800	67 U	8,014	787	
MW-525	12/09/14	6,200	NA	NA	NA	0.008 UU	720	28,000	66 U	28,753	788
MW-525	06/23/15	NA	NA	NA	NA	230	2,700	66 U	2,963	760	

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-525	10/26/16	350	2.0	140	86	0.008 UU	150	3,900	100 U	4,100	777
MW-525 (Duplicate)	10/26/16	360	1.9	140	85	0.008 UU	140	3,300	100 U	3,490	775
MW-525	07/26/17	1,200	NA	NA	NA	0.008 UU	130	4,700	110 U	4,885	782
MW-525	03/20/18	14	NA	NA	NA	0.008 UU	49 U	920	110 U	1,000	764
MW-525	06/27/18	6.0	NA	NA	NA	0.008 UU	46 U	1000	100 U	1,073	769
MW-525	09/17/18	6.6	NA	NA	NA	0.008 UU	47 U	570	100 U	644	749
MW-525	11/27/18	0.5 U	NA	NA	NA	0.009 UU	130	19 U	100 U	190	510
MW-525	03/19/19	6.0	NA	NA	NA	0.008 UU	47 U	320	100 U	394	719
MW-525	06/20/19	4.7	NA	NA	NA	0.008 UU	47 U	290	100 U	364	713
MW-525	09/17/19	0.9 J	NA	NA	NA	0.008 UU	46 U	120 J	100 U	193	652
MW-525	12/11/19	3.0	NA	NA	NA	0.008 UU	50 U	88 J	110 U	168	622
MW-525	03/11/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-525	06/23/20	0.72 J	NA	NA	NA	0.009 UU	48 U	41 J	110 U	120	573
MW-525	09/21/20	1.10	NA	NA	NA	0.009 UU	50 U	70 J	110 U	150	606
MW-525	11/04/20	0.93 J	NA	NA	NA	0.009 UU	50 U	19 UB	110 U	90 UU	521
MW-525	03/02/21	0.2 U	NA	NA	NA	0.009 UU	52 J	19 U	160 J	222	508
MW-525	06/22/21	0.3 U	NA	NA	NA	0.009 UU	48 U	27 J	110 U	106	553
MW-525	08/23/21	0.3 U	NA	NA	NA	0.010 UU	52 U	31 J	120 U	117	555
MW-525	11/02/21	0.3 U	NA	NA	NA	0.009 UU	52 J	19 U	100 U	112	517
MW-526	06/29/12	NA	NA	NA	NA	NA	82	450	67 U	566	713
MW-526	12/14/12	2.0	NA	NA	NA	0.008 UU	32	980	66 U	1,045	771
MW-526	06/26/13	2.0	NA	NA	NA	NA	82	1,100	67 U	1,216	757
MW-526	12/18/13	1.6	NA	NA	NA	0.090 UU	93	850	68 U	977	742
MW-526	06/17/14	NA	NA	NA	NA	NA	150	780	67 U	964	718
MW-526	12/10/14	1.5	NA	NA	NA	0.008 UU	64	350	66 U	447	708
MW-526	06/23/15	NA	NA	NA	NA	NA	140	750	66 U	923	719
MW-526 (Duplicate)	06/23/15	NA	NA	NA	NA	NA	100	790	66 U	923	736
MW-526	10/24/16	0.5 U	0.5 U	0.5 U	20	0.008 UU	47 U	1,000	100 U	1,074	768
MW-526 (Duplicate)	10/24/16	0.5 U	0.5 U	0.5 U	18	0.008 UU	45 U	960	100 U	1,033	768
MW-526	07/26/17	1.5	NA	NA	NA	0.008 UU	120	1,600	100 U	1,770	756
MW-526	03/20/18	1.0	NA	NA	NA	0.008 UU	210	1,800	100 U	2,060	744
MW-526	06/27/18	0.5 U	NA	NA	NA	0.008 UU	53	1000	100 U	1,103	758
MW-526	09/17/18	0.5 U	NA	NA	NA	0.008 UU	48 U	710	110 U	789	755
MW-526	11/27/18	0.5 U	NA	NA	NA	0.045 UU	8800	84	1400	10,284	502
MW-526	02/07/19	0.1 J	NA	NA	NA	0.008 UU	100	360	100 U	510	680
MW-526	03/19/19	0.1 J	NA	NA	NA	0.008 UU	64 J	530	100 U	644	723
MW-526	06/20/19	0.5 U	NA	NA	NA	0.008 UU	150	640	100 U	840	700
MW-526	09/17/19	0.2 U	NA	NA	NA	0.008 UU	48 U	410	110 U	489	729
MW-526	12/11/19	0.2 U	NA	NA	NA	0.008 UU	47 U	150 J	100 U	224	668
MW-526	03/11/20	0.2 U	NA	NA	NA	0.008 UU	45 U	220 J	100 U	293	696
MW-526	07/01/20	0.2 U	NA	NA	NA	0.009 UU	85 J	440	110 U	580	699
MW-526	09/21/20	0.2 U	NA	NA	NA	0.009 UU	75 J	750	120 U	885	733
MW-526	11/04/20	0.2 U	NA	NA	NA	0.008 UU	53 J	530	110 U	638	726
MW-526 (Duplicate)	11/04/20	0.2 U	NA	NA	NA	0.009 UU	48 U	520	110 U	599	741
MW-526	03/02/21	0.2 U	NA	NA	NA	0.009 UU	48 UJ	350	110 UJ	429	720
MW-526	06/22/21	0.3 U	NA	NA	NA	0.009 UU	92 J	580	110 U	727	713
MW-526	08/24/21	0.3 U	NA	NA	NA	0.009 UU	66 J	670	110 U	791	733
MW-526 (Duplicate)	08/24/21	3.0 U	NA	NA	NA	0.009 UU	140	640	110 U	835	702
MW-526	11/02/21	0.3 U	NA	NA	NA	0.009 UU	47 U	370	110 U	449	724
MW-526 (Duplicate)	11/02/21	0.3 U	NA	NA	NA	0.009 UU	48 J	450	100 U	548	722
MW-527	07/02/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571



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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-527	12/19/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-527	06/28/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-527 (Duplicate)	06/28/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-527	12/20/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-527	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-527	12/12/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-527 (Duplicate)	12/12/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-527	06/28/15	NA	NA	NA	NA	NA	28 U	50 U	65 U	72 UU	575
MW-528	07/02/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-528	12/19/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-528 (Duplicate)	12/19/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-528	06/28/13	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-528	12/20/13	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	68 U	74 UU	573
MW-528	06/19/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-528	12/12/14	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-528 (Duplicate)	12/12/14	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-528	06/26/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-530*	07/02/12	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-530*	09/27/12	NA	NA	NA	NA	NA	29 U	50 U	100	140	536
MW-530*	12/17/12	0.2 U	NA	NA	NA	0.008 UU	90	50 U	260	375	513
MW-530*	03/27/13	NA	NA	NA	NA	NA	32 U	50 U	74 U	78 UU	568
MW-530*	06/26/13	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-530*	09/24/13	NA	NA	NA	NA	NA	31 U	50 U	72 U	77 UU	570
MW-530*	12/18/13	0.2 U	NA	NA	NA	0.008 UU	31 U	50 U	71 U	76 UU	570
MW-530*	03/27/14	NA	NA	NA	NA	NA	28 U	50 U	64 U	71 UU	576
MW-530*	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-530*	09/30/14	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-530*	12/09/14	0.4	NA	NA	NA	0.010 UU	29 U	50 U	68 U	74 UU	573
MW-530*	03/24/15	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-530*	06/23/15	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-530*	10/26/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-530*	07/26/17	0.5 U	NA	NA	NA	0.010 UU	47 U	50 U	100 U	99 UU	553
MW-530*	03/20/18	0.2 U	NA	NA	NA	0.0302 UU	45 U	50 U	100 U	98 UU	553
MW-530*	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-530*	09/20/18	0.5 U	NA	NA	NA	0.009 UU	50 HU	19 U	110 HU	90 UU	521
MW-530*	11/27/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-530*	03/19/19	0.0 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-530*	06/17/19	Well Damaged - No sampling - Repaired on 06/28/19									
MW-530*	09/17/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-530*	12/12/19	0.2 U	NA	NA	NA	0.008 UU	51 U	19 U	110 U	90 UU	521
MW-530*	03/11/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-530*	06/23/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-530*	09/21/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-530*	11/03/20	0.2 U	NA	NA	NA	0.009 UU	51 U	19 U	110 U	90 UU	521
MW-530*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	45 U	19 U	100 U	82 UU	523
MW-530*	06/23/21	0.3 U	NA	NA	NA	0.012 UJB	52 U	19 U	120 U	96 UU	519
MW-530*	08/24/21	0.3 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-530*	11/03/21	0.3 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-531	06/28/12	NA	NA	NA	NA	NA	62	73	67 U	169	597
MW-531	12/18/12	0.2 U	NA	NA	NA	0.008 UU	29 U	50 U	67 U	73 UU	574
MW-531	06/26/13	NA	NA	NA	NA	NA	29	83	68 U	146	635

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-531	12/17/13	0.4	NA	NA	NA	0.008 UU	30 U	77	69 U	127	648
MW-531	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-531	12/09/14	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-531	06/23/15	NA	NA	NA	NA	NA	29 U	50 U	69 U	74 UU	573
MW-531	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	47 U	50 U	110 U	104 UU	550
MW-531	07/26/17	0.6	NA	NA	NA	0.008 UU	46 U	95	100 U	168	635
MW-531	03/20/18	0.2 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-531	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-531	09/17/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-531	11/27/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-531	03/19/19	4.5	NA	NA	NA	0.008 UU	190	19 U	100 U	250	507
MW-531	06/20/19	0.5 U	NA	NA	NA	0.008 UU	51 U	19 U	110 U	90 UU	521
MW-531 (Duplicate)	06/20/19	0.5 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-531	09/17/19	0.2 U	NA	NA	NA	0.008 UU	46 U	23 J	100 U	96	549
MW-531 (Duplicate)	09/17/19	0.2 U	NA	NA	NA	0.019 UU	46 U	24 J	100 U	97	551
MW-531	12/11/19	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-531	03/11/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-531	06/24/20	0.2 U	NA	NA	NA	0.009 UU	48 U	19 U	110 U	89 UU	521
MW-531	09/21/20	0.2 U	NA	NA	NA	0.008 UU	1300	19 U	1300	2,610	501
MW-531	11/04/20	0.2 U	NA	NA	NA	0.009 UU	49 U	19 UB	110 U	89 UU	521
MW-531 (Duplicate)	11/04/20	0.2 U	NA	NA	NA	0.009 UU	50 U	32 J	110 U	112	560
MW-531	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	19 U	100 UJ	83 UU	523
MW-531	06/22/21	0.3 U	NA	NA	NA	0.009 UU	46 U	25 J	100 U	98	553
MW-531	08/23/21	0.3 U	NA	NA	NA	0.009 UU	45 U	19 U	100 U	82 UU	523
MW-531	11/02/21	0.3 U	NA	NA	NA	0.009 UU	49 U	19 U	110 U	89 UU	521
MW-532	06/29/12	NA	NA	NA	NA	NA	41	50 U	68 U	100	552
MW-532	12/14/12	0.2 U	NA	NA	NA	0.008 UU	48	50 U	140	213	523
MW-532	06/26/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-532	12/17/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	69 U	75 UU	572
MW-532	06/17/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-532	12/09/14	0.2	NA	NA	NA	0.008 UU	36	50 U	66 U	94	555
MW-532	06/23/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-532	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	450	90	110	650	527
MW-532	07/26/17	0.5 U	NA	NA	NA	0.021 UU	380	50 U	110 U	460	510
MW-532	03/20/18	0.2 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-532	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-532	09/17/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-532	11/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-532	03/19/19	0.0 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-532	06/20/19	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-532	09/17/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-532	12/11/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-532	03/11/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-532	07/01/20	0.2 U	NA	NA	NA	0.008 UU	97 J	19 U	210 J	317	506
MW-532	09/21/20	0.2 U	NA	NA	NA	0.009 UU	47 U	19 U	110 J	143	513
MW-532	11/04/20	0.2 U	NA	NA	NA	0.028 J	57 J	19 UB	110 U	122 UU	515
MW-532	03/02/21	0.2 U	NA	NA	NA	0.009 UU	48 UJ	19 U	110 UJ	89 UU	521
MW-532	06/23/21	0.3 U	NA	NA	NA	0.010 UU	47 U	19 U	100 U	83 UU	522
MW-532	08/24/21	0.3 U	NA	NA	NA	0.009 UU	50 U	19 U	110 U	90 UU	521
MW-532	11/02/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-8R*	10/21/08	0.505	0.50 U	0.50 U	1.00 U	0.007 UU	243 U	145 JZ	485 U	509	560

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-8R*	12/09/08	0.51	0.50 U	0.50 U	1.00 U	0.007 UU	240 U	97.1	481 U	458	543
MW-8R*	02/23/09	0.5 U	NA	NA	NA	0.007 UU	68	50 U	70 U	128	540
MW-8R*	04/21/09	0.5 U	NA	NA	NA	0.007 UU	29	50 U	67 U	88	560
MW-8R*	06/23/09	0.5 U	NA	NA	NA	0.007 UU	49	50 U	67 U	108	548
MW-8R*	08/18/09	0.5 U	NA	NA	NA	0.012 UU	62	50 U	66 U	120	542
MW-8R*	10/26/09	0.5 U	NA	NA	NA	0.012 UU	300	50 U	66 U	358	513
MW-8R*	01/19/10	NA	NA	NA	NA	NA	34	50 U	67 U	93	556
MW-8R* (Duplicate)	01/19/10	NA	NA	NA	NA	NA	32	50 U	68 U	91	557
MW-8R*	04/20/10	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-8R*	07/20/10	NA	NA	NA	NA	NA	79	50 U	67 U	138	537
MW-8R*	10/26/10	0.5 U	NA	NA	NA	0.013 UU	440	50 U	77 U	504	509
MW-8R*	03/22/11	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-8R* (Duplicate)	03/22/11	NA	NA	NA	NA	NA	32	50 U	67 U	91	558
MW-8R*	06/15/11	NA	NA	NA	NA	NA	44	50 U	67 U	103	550
MW-8R*	09/27/11	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-8R*	12/14/11	0.2 U	NA	NA	NA	0.007 UU	28 U	50 U	66 U	72 UU	575
MW-8R*	03/28/12	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-8R*	06/28/12	NA	NA	NA	NA	NA	30 U	50 U	70 U	75 UU	571
MW-8R* (Duplicate)	06/28/12	NA	NA	NA	NA	NA	30 U	50 U	71 U	76 UU	571
MW-8R*	09/26/12	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-8R*	12/14/12	0.2 U	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-8R*	03/26/13	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-8R*	06/25/13	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-8R*	09/25/13	NA	NA	NA	NA	NA	30 U	50 U	69 U	75 UU	572
MW-8R*	12/17/13	0.2 U	NA	NA	NA	0.008 UU	30 U	50 U	70 U	75 UU	571
MW-8R*	03/27/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-8R*	06/18/14	NA	NA	NA	NA	NA	29 U	50 U	67 U	73 UU	574
MW-8R* (Duplicate)	06/18/14	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-8R*	09/30/14	NA	NA	NA	NA	NA	31 U	50 U	73 U	77 UU	569
MW-8R*	12/10/14	0.2	NA	NA	NA	0.008 UU	28 U	50 U	66 U	72 UU	575
MW-8R*	03/25/15	NA	NA	NA	NA	NA	29 U	50 U	68 U	74 UU	573
MW-8R*	06/23/15	NA	NA	NA	NA	NA	28 U	50 U	66 U	72 UU	575
MW-8R*	10/24/16	0.5 U	0.5 U	0.5 U	1.5 U	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-8R*	07/25/17	0.5 U	NA	NA	NA	0.007 UU	45 U	50 U	100 U	98 UU	553
MW-8R*	03/20/18	0.2 U	NA	NA	NA	0.008 UU	48 U	50 U	110 U	104 UU	550
MW-8R*	06/29/18	0.5 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553
MW-8R*	09/18/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-8R*	11/29/18	0.5 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-8R*	03/21/19	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-8R*	06/18/19	0.5 U	NA	NA	NA	0.008 UU	140	19 U	120 U	210	509
MW-8R*	09/18/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-8R*	12/12/19	0.2 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-8R*	03/10/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	110 U	88 UU	521
MW-8R*	06/30/20	0.2 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-8R*	09/23/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-8R*	11/06/20	0.2 U	NA	NA	NA	0.008 UU	48 U	19 U	110 U	89 UU	521
MW-8R*	03/03/21	0.2 U	NA	NA	NA	0.009 UU	48 UJ	19 J	110 UJ	98	539
MW-8R*	06/23/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-8R*	08/25/21	0.3 U	NA	NA	NA	0.009 UU	48 UJ	19 U	110 U	89 UU	521
MW-8R*	11/01/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-533*	03/20/18	0.2 U	NA	NA	NA	0.008 UU	47 U	50 U	100 U	99 UU	553

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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-533*	06/27/18	0.5 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-533*	09/17/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-533* (Duplicate)	09/17/18	0.5 U	NA	NA	NA	0.008 UU	49 U	19 U	110 U	89 UU	521
MW-533*	11/27/18	0.5 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-533**	03/19/19	0.0 U	NA	NA	NA	0.008 UU	47 J	19 U	100 U	107	517
MW-533*	06/19/19	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-533*	09/17/19	0.2 U	NA	NA	NA	0.008 UU	45 U	19 U	100 U	82 UU	523
MW-533*	12/11/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-533* (Duplicate)	12/11/19	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-533*	03/11/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-533*	06/24/20	0.2 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-533*	09/21/20	0.2 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-533*	11/04/20	0.2 U	NA	NA	NA	0.008 UU	45 U	19 UB	100 U	82 UU	523
MW-533*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	19 U	100 UJ	83 UU	523
MW-533*	06/22/21	0.3 U	NA	NA	NA	0.010 UU	50 U	19 U	110 U	90 UU	521
MW-533*	08/24/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
MW-533*	11/02/21	0.3 U	NA	NA	NA	0.009 UU	45 U	19 U	100 U	82 UU	523
MW-534	03/20/18	0.2 U	NA	NA	NA	0.008 UU	45 U	50 U	100 U	98 UU	553
MW-534	06/27/18	0.5 U	NA	NA	NA	0.008 UU	46 U	50 U	100 U	98 UU	553
MW-534	09/17/18	0.5 U	NA	NA	NA	0.008 UU	47 U	19 U	100 U	83 UU	522
MW-534	11/28/18	0.5 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-534 (Duplicate)	11/28/18	0.5 U	NA	NA	NA	0.008 UU	50 U	19 U	110 U	90 UU	521
MW-534	03/19/19	0.0 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
MW-534 (Duplicate)	03/19/19	0.0 U	NA	NA	NA	0.008 UU	46 U	19 U	100 U	83 UU	523
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	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	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	0.2 U	NA	NA	NA	0.009 UU	48 U	29 J	110 U	108	556
MW-534	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 UJ	19 U	100 UJ	83 UU	523
MW-534	06/22/21	0.3 U	NA	NA	NA	0.010 UU	48 U	19 J	110 U	98	539
MW-534	08/24/21	0.3 U	NA	NA	NA	0.010 UU	49 U	19 U	110 U	89 UU	521
MW-534	11/02/21	0.3 U	NA	NA	NA	0.009 UU	47 U	19 U	100 U	83 UU	522
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	353	505
MW-535*	03/11/20	0.2 U	NA	NA	NA	0.192	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	0.2 U	NA	NA	NA	0.009 UU	49 U	19 U	190 J	224	508
MW-535*	03/02/21	0.2 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L) CUL=0.05	Diesel <sup>3</sup> (µg/L) --	Gasoline <sup>4</sup> (µg/L) --	Heavy Oil <sup>3</sup> (µg/L) --	TPH <sup>5</sup> (µg/L) see note 6	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--						
MW-535*	06/23/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-535*	08/24/21	0.3 U	NA	NA	NA	0.009 UU	49 J	19 U	100 U	109	517
MW-535*	11/03/21	0.3 U	NA	NA	NA	0.009 UU	46 U	19 U	100 U	83 UU	523
MW-E	07/26/17	0.5 U	NA	NA	NA	0.018	1500	260	100 U	1,810	528
MW-E-R	03/20/18	0.2 U	NA	NA	NA	0.008 UU	45 U	410	100 U	483	734
MW-E-R	06/27/18	0.5 U	NA	NA	NA	0.008 UU	59	510	110 U	624	721
MW-E-R	09/17/18	0.5 U	NA	NA	NA	0.008 UU	280	590	100 U	920	658
MW-E-R	11/27/18	0.5 U	NA	NA	NA	0.012	640	460	110 U	1,155	588
MW-E-R	02/07/19	0.2 J	NA	NA	NA	0.008	450	350	100 U	850	591
MW-E-R (Duplicate)	02/07/19	0.2 J	NA	NA	NA	0.008	300	380	100 U	730	621
MW-E-R	03/19/19	0.1 J	NA	NA	NA	0.010	180	400	110 U	635	655
MW-E-R	06/20/19	0.5 U	NA	NA	NA	0.008 UU	100 J	460	120 U	620	693
MW-E-R	09/17/19	0.2 U	NA	NA	NA	0.008 UU	140	690	100 U	880	708
MW-E-R	12/11/19	2.0 U	NA	NA	NA	0.008 UU	74 J	770	100 U	894	739
MW-E-R	03/11/20	2.0 U	NA	NA	NA	0.008 UU	86 J	880	100 U	1,016	741
MW-E-R	06/23/20	2.0 U	NA	NA	NA	0.008 UU	48 U	1000	110 U	1,079	766
MW-E-R (Duplicate)	06/23/20	2.0 U	NA	NA	NA	0.009 UU	46 U	960	100 U	1,033	767
MW-E-R	09/21/20	0.2 U	NA	NA	NA	0.008 UU	210	1100	270	1,580	677
MW-E-R (Duplicate)	09/21/20	0.2 U	NA	NA	NA	0.008 UU	47 U	980	140 J	1,144	737
MW-E-R	11/04/20	0.2 J	NA	NA	NA	0.009 UJ	72 J	1300	110 U	1,427	759
MW-E-R	03/02/21	0.2 U	NA	NA	NA	0.009 UU	72 J	580	100 U	702	724
MW-E-R	06/22/21	3.0 U	NA	NA	NA	0.009 UU	97 J	580	110 U	732	711
MW-E-R (Duplicate)	06/22/21	0.3 U	NA	NA	NA	0.009 UU	98 J	590	110 U	743	712
MW-E-R	08/24/21	3.0 U	NA	NA	NA	0.010 UU	770	880	120 U	1,710	620
MW-E-R (Duplicate)	08/24/21	3.0 U	NA	NA	NA	0.093 UU	1,400	880	120 J	2,400	580
MW-E-R	11/02/21	3.0 U	NA	NA	NA	0.010 UU	97 J	840	120 U	997	731

**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 <sup>1</sup> (µg/L)				Total cPAHs Adjusted for Toxicity <sup>2</sup> (µg/L)	Diesel <sup>3</sup> (µg/L)	Gasoline <sup>4</sup> (µg/L)	Heavy Oil <sup>3</sup> (µg/L)	TPH <sup>5</sup> (µg/L)	TPH CUL <sup>6</sup> (µg/L)
		B	T	E	X						
		CUL=16	--	--	--	CUL=0.05	--	--	--	see note 6	

**Notes:**

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

<sup>2</sup> cPAHs = 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.

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

<sup>4</sup> Gasoline analyzed by method NWTPH-G.

<sup>5</sup> TPH = 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

<sup>6</sup> 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.

<sup>uoz</sup> = 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	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 the method hold time. Results from the re-extraction are N.D. (<MDL) for both DRO and HO. Since the hold time had expired prior to the re-extraction, all reported data is taken from the original extraction.
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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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
LM-2	06/23/21	63.19	5.99	10,178	0.26	-36.4	NA	320.0	0.570	1	0.190	2.0
LM-2	11/03/21	59.46	6.08	13,895	0.23	-66.9	NA	420	0.250 U	2,300	250	5.5
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	2,589	0.70	-147.1	NA	100.0	0.250 UH	3,900	11.000	3.5
MW-101	06/24/21	58.34	6.64	462.5	0.30	-40.8	NA	21.0	0.250 U	5,100	4.100 B	4.5
MW-101	11/01/21	60.84	7.70	924.3	3.27	91.5	NA	46.0	1.100	310	1,500	1.0
MW-101* (Duplicate)	11/01/21	--	--	--	--	--	NA	41	0.940 H	470	1,500	--
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
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

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	2.300	2.0
MW-104	06/23/21	58.41	6.55	1,703	0.16	-30.3	NA	24.0 F1	0.250 U F1	420	0.750	0.0
MW-104 (Duplicate)	06/23/21							23,000	250.000 U H	400	760.000	
MW-104 (Duplicate)	06/23/21	--	--	--	--	--	--	23.0	0.250 U H	400	0.760	--
MW-104	11/02/21	60.05	7.33	5,551	0.56	50.70	NA	140	0.410 J	650	1,400	2.50
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
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



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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	441.0	0.56	93.1	NA	29.0	0.380 JH	3.0 U	0.016	0.0
MW-126	06/23/21	52.32	6.15	449.6	2.49	150.6	NA	35.0	0.300 J	3.0 U	0.120	1.0
MW-126	11/01/21	54.00	6.44	483.99	6.63	165.90	NA	33	4.600	3 U	62	0.00
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	1,352	0.07	-184.2	NA	110.0	0.250 UH	1,300	7.800	3.5
MW-129R	06/22/21	--	--	--	--	--	--	130.0	1.200	920	7.400	--
MW-129R	11/02/21	56.41	5.31	2,303	0.20	-66.10	NA	1,400	0.250 U	340	18,000	4.50
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
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

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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 J	0.002	0.0
MW-139R (Duplicate)	11/03/20	--	--	--	--	--	--	1,300	0.500	3 J	0.003	--
MW-139R	06/22/21	64.91	6.94	11,644	4.10	62.5	NA	510	0.820	12	0.003	0.0
MW-139R	11/03/21	59.25	8.36	2,904	2.49	194.9	NA	97	0.770	3 U	2.000 J	0.5
MW-139R (Duplicate)	11/03/21	--	--	--	--	--	NA	93	0.870 H	3.0 U	1.6 J	--
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
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	411.8	0.18	-60.3	NA	2.9 J F1	0.250 U H F1	11,000 F1	2.300	2.0
MW-143	06/23/21	55.59	6.31	580.5	0.10	-151.6	NA	3.3 J	0.250 U	3,600	4.700	3.5
MW-143	11/01/21	56.26	6.23	498.58	0.28	-84.6	NA	0.350 U	0.250 U	9,300	2,200	7.0

Table 3-5  
 Summary of Groundwater Analytical Data - Natural Attenuation Parameters  
 Former Unocal Edmonds Bulk Fuel Terminal  
 11720 Unoco Road  
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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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
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



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



Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	0.600	3
MW-20R	06/23/21	59.96	6.42	28,323	0.09	-90.6	NA	980.0	1.500	160	0.810	0
MW-20R	11/03/21	60.14	6.57	16,171	4.87	223.6	NA	780.000	0.250 U	3 U	250	0.0
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
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

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	0.1	8.61	108.5	NA	20.0	0.250 U	3.0 U	0.280	1.0
MW-502	06/21/21	57.92	6.11	249.3	0.25	153.6	NA	21.0	0.250 U H H3	6.2	0.440	0.0
MW-502	11/02/21	55.17	6.46	253.21	0.16	80.6	NA	20	0.250 U	3.0 U	270	0.0
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
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	398.5	0.20	-68.2	NA	22.0	0.250 U	96.0	0.460	6.0
MW-503	06/21/21	64.12	6.66	28,633	2.59	151.4	NA	24.0	0.250 U H H3	100.0	0.340	0.0
MW-503 (Duplicate)	06/21/21	--	--	--	--	--	--	24.0 F1	0.250 U H H3 F1	100.0	0.480	--
MW-503	11/01/21	58.95	10.17	0.34	9.81	67.80	NA	24	0.250 U	95	420	4.0
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	1.38	1.5	NA	270.0	0.340 JH	76.0	1.100	2.0
MW-504	06/24/21	60.71	6.68	3,205	0.13	44.6	NA	130.0	0.250 U	190.0	0.990 B	1.5
MW-504	11/01/21	57.69	10.17	3.13	9.91	103.4	NA	51	0.800	3.0 U	1.60 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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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
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	9,282	0.13	-187.8	NA	420.0	0.250 UH	630.0	3.900	4.5
MW-505	06/23/21	62.47	6.11	4,357	0.22	-43.8	NA	170.0	0.250 U	1,700	1.800	3.5
MW-505	11/01/21	60.38	7.05	3.00	9.52	69.8	NA	440	0.250 U	940	6,300	3.0
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	0.13	-203.6	NA	140.0	0.250 UH	5,400	7.600	5.0
MW-506	06/23/21	62.34	6.73	5,195	0.22	-85.1	NA	100.0	0.650 F1	5,200	5.600	4.0
MW-506	11/03/21	59.53	6.99	2,471	0.55	-35.6	NA	47	0.540 F1	1,800 F1	1,200 F1	0.5
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

Table 3-5  
 Summary of Groundwater Analytical Data - Natural Attenuation Parameters  
 Former Unocal Edmonds Bulk Fuel Terminal  
 11720 Unoco Road  
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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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
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	776.9	0.14	10.8	NA	40.0	0.250 UH	460.0	4.700	0.0
MW-507	06/24/21	61.65	6.62	930.1	0.12	115.1	NA	210.0	0.300 J	61.0	0.380 B	0.0
MW-507	11/03/21	60.79	6.90	833.98	2.69	87.1	NA	170	1.200	3.0 U	290	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	0.004	0.0
MW-509	06/21/21	64.12	6.66	28,633	2.59	151.4	NA	1,000	1.000 H H3	3.0 U	0.190	0.0
MW-509	11/03/21	60.44	8.00	1,679	2.68	125.9	NA	62	0.470 J	20	240 ^2	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



Table 3-5  
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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	265.5	3.32	210.1	NA	20.0	0.710	3.0 U	0.002 J	0.0
MW-511	06/21/21	57.41	6.14	171.2	2.68	186.7	NA	18.0	0.690 H H3	3.0 U	0.001 J	0.0
MW-511	11/03/21	56.22	6.05	272.66	3.82	170.2	NA	20	0.700	3 U	3	0.0
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	0.07	-36.6	NA	47.0	0.250 U	1,200	2.200	3.5
MW-512	06/24/21	64.38	6.20	701.5	0.28	-34.0	NA	14.0	0.250 U	250.0	0.650 U	1.5
MW-512	11/03/21	60.34	6.92	1,836	1.74	-66.4	NA	49	0.250 U	700	1,500	2.0
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

Table 3-5  
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 11720 Unoco Road  
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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
MW-513	11/04/20	61.37	6.65	16,112	0.31	-32.0	NA	500.0	0.250 UH	280.0	5.700	5.0
MW-513	06/21/21	64.36	6.67	4,565	1.81	-6.0	NA	180.0 F1	0.250 U H H3	63.0	0.420	5.0
MW-513	11/01/21	59.32	6.75	7,249	1.05	5.4	NA	260	0.250 U	150	1,600	2.5
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
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	0.16	23.7	NA	180.0	0.250 UH	310.0	5.400	3.0
MW-514	06/24/21	66.70	6.39	0.1	9.50	-10.9	NA	45.0 F1	0.250 U F1	220.0	1.500 B	2.0
MW-514	11/01/21	59.36	6.62	2,879	0.09	78.0	NA	96	0.250 U	230	2,100	1.5
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	480.0	1.200	0.5
MW-515	06/24/21	61.91	6.68	2,062	0.20	59.3	NA	90.0 F1	0.250 U F1	48.0	0.350	0.0
MW-515	11/02/21	59.49	6.97	10,883	0.13	51.5	NA	470	0.250 U	35	410	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

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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
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	0.228	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	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	0.24	97.3	NA	220.0	0.360 J	130.0	1.800	0.0
MW-516	06/24/21	64.44	6.65	1,146	0.24	108.9	NA	55.0	0.250 U	64.0	0.130 B	0.0
MW-516	11/03/21	60.45	6.88	3,262	0.24	-20.3	NA	59	0.250 U	37	830	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	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	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	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	6,957	1.70	88.5	NA	230.0	0.560 H	210.0	2.600	0.3
MW-517	06/24/21	67.08	6.74	505.1	2.87	150.8	NA	31.0	0.250 U	47.0	0.190 B	0.0
MW-517	11/03/21	61.06	6.76	4,900	2.04	87.5	NA	160	0.530	67	1,600	0.0
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
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



Table 3-5  
 Summary of Groundwater Analytical Data - Natural Attenuation Parameters  
 Former Unocal Edmonds Bulk Fuel Terminal  
 11720 Unoco Road  
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Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	2,563	0.14	-113.0	NA	26.0	0.250 UH	1,200	0.510	1.5
MW-518 (Duplicate)	11/05/20	--	--	--	--	--	--	30.0	0.250 UH	1,100	0.500	--
MW-518	06/24/21	59.03	6.93	432.6	0.21	-64.7	NA	6.2	0.250 U	850.0	0.180 B	1.0
MW-518 (Duplicate)	06/24/21	--	--	--	--	--	--	6.8	0.250 U H	450.0	0.180 B	--
MW-518	11/03/21	65.01	7.92	1,470	0.30	-122.9	NA	68.0	0.250 U H	300.0	--	2.5
MW-518 (Duplicate)	11/03/21	--	--	--	--	--	NA	68	0.250 U H	300	--	--
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	880.9	2.28	78.2	NA	91.0	0.250 UH	62	0.120	0.0
MW-519	06/23/21	60.82	6.13	743.2	0.35	-1.4	NA	34.0	0.290 J	3,000	0.930	3.5
MW-519	11/01/21	59.96	6.74	761.66	1.38	103.6	NA	73	0.400 J F1	5	43	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
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

Table 3-5  
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 Former Unocal Edmonds Bulk Fuel Terminal  
 11720 Unoco Road  
 Edmonds, Washington



Monitoring Well	Date Sampled	Temperature (°F) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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	944.9	7.81	158.8	NA	330.0	0.350 JH	3 U	0.002	0.0
MW-520	06/23/21	63.33	6.00	2,358	0.40	96.7	NA	110.0	0.360 J	330.0	2.500	0.0
MW-520	11/03/21	59.32	6.93	1,889	5.97	55.6	NA	240	0.350 J	31	580 ^2	0.5
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	549.4	4.01	160.8	NA	49.0	0.250 UH	3 U	0.069	0.0
MW-521	06/23/21	62.21	5.99	1,896	1.00	166.6	NA	56.0	0.250 U	230.0	1.700	0.0
MW-521	11/03/21	58.49	6.88	613.33	8.40	145.1	NA	61	0.250 U	3 U	15	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
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	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

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
MW-522	11/06/20	57.39	6.70	952.0	0.15	41.3	NA	85.0	0.250 UH	260	0.300	0.0
MW-522	06/24/21	58.54	6.41	912.2	0.11	25.2	NA	32.0	0.250 U	220.0	0.380	0.5
MW-522	11/01/21	57.92	8.21	794.10	5.66	293.5	NA	260	0.530	3 U	1 U	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
MW-525	11/04/20	62.05	6.03	944.4	0.35	-156.5	NA	110.0	0.250 UH	540	1.100	7.0
MW-525	06/22/21	63.70	5.46	1,563	0.45	26.0	NA	59.0	0.850	1,900	1.200	5.5
MW-525	11/02/21	59.92	5.76	268.60	1.54	200.8	NA	60	0.690	49	74	0.0
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	0.1	10.30	57.2	NA	20.0	0.250 UH	3 U	0.480	1.0
MW-526 (Duplicate)	11/04/20	--	--	--	--	--	--	19.0	0.250 UH	3 J	0.490	

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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>	
MW-526	06/22/21	61.62	5.33	169.7	0.10	102.4	NA	12.0 F1	0.250 U F1	7.1	0.500	4.5	
MW-526	11/02/21	56.48	6.01	210.0	0.57	180.6	NA	15.0	0.250 U	3.0 U	370.000	0.5	
MW-526 (Duplicate)	11/02/21	--	--	--	--	--	NA	16	0.630	3 U	310	--	
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	0.410	0.0	
MW-530	06/23/21	59.80	6.56	38,508	0.10	-130.2	NA	1,400	6.700	57.0	0.530	0.0	
MW-530	11/03/21	56.22	6.36	32,561	0.13	-271.6	NA	1,600	0.700	270	410	0.5	
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	0.96	111.9	NA	150.0	0.340 JH	170	2.500	0.1	
MW-531 (Duplicate)	11/04/20	--	--	--	--	--	--	180.0	0.310 JH	200	2.500	--	
MW-531	06/22/21	64.39	6.49	2,345	0.57	46.3	NA	71.0	0.740	0.2	1.900	3.5	
MW-531	11/02/21	58.92	6.54	1,604	0.60	87.1	NA	130	0.250 U	62	810	0.0	
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	
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	186.6	1.86	172.7	NA	22.0	0.250 UH	5	0.033	0.1	
MW-532	06/23/21	57.84	5.89	183.2	0.64	129.5	NA	12.0	0.250 U	180.0	0.100	0.5	
MW-532	11/02/21	57.87	5.81	168.37	4.66	271.0	NA	23	0.550	5	4	0.0	
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	



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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
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 U	0.001 U	0.0
MW-533	06/22/21	64.32	6.96	38,461	3.85	66.4	NA	1,600	8.500	3.0 U	0.001 U	0.0
MW-533	11/02/21	57.17	8.58	10,090	3.94	201.5	NA	500	0.930	3 U	1 J B	0.5
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	4.000	6.5
MW-534	06/22/21	64.22	6.52	28,698	0.15	9.5	NA	1,100	9.100	480.0	4.600	0.0
MW-534	11/02/21	60.10	7.87	5,296	0.20	-103.8	NA	230	0.250 U	490	2,500	2.0
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 U	0.001 U	0.0
MW-535	06/23/21	59.71	6.77	33,417	4.66	179.3	NA	1,700	1.500	3.0 U	0.001 J	0.0
MW-535	11/03/21	54.61	7.31	20,478	4.03	265.2	NA	1,100	0.650	3 U	2 J	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
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	1,006	0.75	81.3	NA	47.0	0.250 UH	3 U	0.012	0.0
MW-8R	06/23/21	57.99	6.57	1,105	1.44	128.5	NA	54.0 F1	0.250 U F1	5.4	0.017	0.0
MW-8R	11/01/21	57.86	8.14	394.21	1.23	244.9	NA	51	0.970	3.0 U	3.1	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) <sup>1</sup>	pH <sup>1</sup>	Conductivity (µS/cm) <sup>1</sup>	DO (mg/L) <sup>1</sup>	ORP (mV) <sup>1</sup>	Total Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>2</sup>	Sulfate (mg/L) <sup>3</sup>	Nitrate (mg/L) <sup>3</sup>	Methane (µg/L) <sup>4</sup>	Manganese (mg/L) <sup>5</sup>	Ferrous Iron by Field Measurement (mg/L) <sup>6</sup>
MW-E-R	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	--	--	--	--	--	NA	2.5 J	0.250 U	15,000	8.800	--
MW-E-R	11/04/20	61.92	6.67	1,410	0.07	-147.6	NA	1.6 J	0.250 U	16,000	7.100	6.0
MW-E-R	06/22/21	61.40	6.66	1,504	0.01	-99.7	NA	13.0	0.690	12.0	9.500	3.0
MW-E-R (Duplicate)	06/22/21	--	--	--	--	--	NA	12.0	1.400	9,800	9.200	--
MW-E-R	11/02/21	60.17	6.47	1,233	0.21	-153.9	NA	110	0.250 U	35	6	4.5

**Notes:**

- <sup>1</sup>: Temperature, pH, DO, conductivity and ORP measured using an In-Situ® 9500 and flow through cell.
- <sup>2</sup>: Total Alkalinity analyzed using EPA method 310.1
- <sup>3</sup>: Sulfate and nitrate analyzed by EPA method 300.0.
- <sup>4</sup>: Methane analyzed using method RSK 175.
- <sup>5</sup>: Manganese analyzed using EPA method 6020.
- <sup>6</sup>: Ferrous iron field measurement analyzed using a Hach field kit.
- °F = Degrees Fahrenheit
- µS/cm = microsiemens per centimeter
- DO = Dissolved oxygen
- mg/L = milligrams per liter
- µg/L = micrograms per liter
- ORP = Oxidation-reduction potential
- mV = millivolts
- CaCO<sub>3</sub> = Calcium carbonate
- EPA = Environmental Protection Agency
- NA = Not Analyzed
- ^ = Measurement error.
- <sup>DB2</sup> = 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
H3	Sample was received and analyzed past holding time
F1	MS and/or MSD recovery exceeds control limits.
B	Compound was found in the blank and sample.



**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 <sup>1</sup> )	DPE System Enclosure LEL (Meter GT7911) <sup>2</sup>	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells <sup>3</sup> )	Number of Active Soil Vapor Extraction Wells (out of 20 Wells <sup>4</sup> )	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) <sup>5</sup>	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	
<b>DPE System Groundwater Extraction Testing Start-up: 12/1/17</b>										
<b>DPE System Soil Groundwater Extraction Effective Start-up: 12/5/17</b>										
12/5/17 11:35	0.0	88.5	13	0	272,728 <sup>6</sup>	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	1217.1	4	6	3,441,445	53,892	50.40	Yes	7.98	
5/29/18 13:15	0.0	1248.5	10	12	3,523,835	82,390	58.50	Yes	7.89	
6/7/18 12:30	0.0	1290.4	10	12	3,673,007	149,172	81.20	Yes	8.15	
6/15/18 10:00	0.0	1344.9	11	13	3,878,554	205,547	77.70	Yes	8.19	
7/5/18 11:40	0.0	1428.5	4	6	4,198,836	320,282	70.30	Yes	8.17	
7/11/18 10:45	0.0	1465.6	8	10	4,329,157	130,321	73.10	Yes	7.46	
7/19/18 13:00	0.0	1472.5	8	10	4,355,511	26,354	73.00	No	#N/A	No Discharge
7/26/18 14:00	0.0	1533.7	8	10	4,571,684	216,173	70.50	Yes	8.15	
8/3/18 15:00	0.0	1582.7	4	6	4,739,433	167,749	67.60	Yes	8.13	
8/7/18 12:00	0.0	1606.4	4	6	4,832,209	92,776	64.90	Yes	8.68	
8/15/18 13:00	0.0	1649.5	4	6	4,998,519	166,310	68.40	Yes	7.96	
10/10/18 16:55	0.0	1650.9	8	0	5,004,254	5,735	57.80	Yes	8.50	
10/18/18 14:00	0.0	1656.1	6	6	5,018,900	14,646	57.60	Yes	7.90	
10/26/18 16:00	0.0	1662.1	9	6	5,032,408	13,508	63.40	Yes	7.55	
11/7/18 16:00	0.0	1663.7	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 <sup>1</sup> )	DPE System Enclosure LEL (Meter GT7911) <sup>2</sup>	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells <sup>3</sup> )	Number of Active Soil Vapor Extraction Wells (out of 20 Wells <sup>4</sup> )	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) <sup>5</sup>	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	1700.4	13	13	5,157,564	121,659	61.80	Yes	8.66	
11/21/18 14:00	0.0	1748.1	8	8	5,313,850	156,286	58.80	Yes	7.86	
1/11/19 10:00	0.0	1823.4	4	0	5,602,531	288,681	74.80	Yes	7.21	
1/17/19 14:00	0.0	1860.6	4	0	5,753,975	151,444	52.20	Yes	7.47	
1/24/19 13:00	0.0	1878.1	9	0	5,814,693	60,718	65.00	Yes	7.63	
1/29/19 12:00	0.0	1908.7	9	0	5,911,004	96,311	57.60	Yes	7.89	
2/21/19 13:40	0.0	1957.9	6	0	6,072,481	161,477	58.30	Yes	7.76	
2/26/19 15:30	0.0	2013.3	5	0	6,238,746	166,265	51.20	Yes	7.27	
3/6/19 12:30	0.0	2098.0	6	0	6,442,883	204,137	45.40	Yes	7.22	
3/14/19 12:00	0.0	2182.6	6	0	6,652,843	209,960	43.30	Yes	7.38	
3/22/19 14:00	0.0	2183.5	6	0	6,654,670	1,827	55.20	Yes	7.89	
3/29/19 12:15	0.0	2256.6	7	0	6,875,732	221,062	48.20	Yes	7.65	
4/2/19 14:00	0.0	2304.4	7	0	6,990,685	114,953	45.50	Yes	7.31	
4/11/19 14:00	0.0	2355.5	7	0	7,112,336	121,651	49.60	Yes	7.29	
4/17/19 13:00	0.0	2408.2	7	0	7,234,324	121,988	43.40	Yes	7.47	
4/25/19 15:00	0.0	2451.7	7	0	7,332,269	97,945	48.30	Yes	7.51	
5/2/19 13:00	0.0	2511.0	7	0	7,465,452	133,183	41.00	Yes	7.75	
5/9/19 15:05	0.0	2600.2	7	0	7,663,809	198,357	40.80	Yes	7.46	
5/17/19 15:00	0.0	2696.0	7	0	7,857,022	193,213	31.30	Yes	7.39	
5/23/19 13:00	0.0	2766.2	6	0	7,988,633	131,611	34.40	Yes	7.19	
5/30/19 14:30	0.0	2838.8	6	0	8,126,323	137,690	37.80	Yes	7.69	
6/6/19 16:00	0.0	2914.7	6	0	8,285,853	159,530	27.70	Yes	7.63	
8/2/19 14:40	0.0	2962.5	4	0	8,364,915	79,062	50.00	No	--	
8/8/19 11:20	0.0	2975.3	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	2999.4	13	0	8,534,853	116,369	83.20	Yes	8.06	4 wells on upon arrival
8/21/19 11:58	0.0	3034.3	13	0	8,697,340	162,487	77.30	Yes	8.55	
9/5/19 13:10	0.0	3103.6	13	13	8,892,797	195,457	71.60	Yes	8.20	
9/9/19 11:51	0.0	3106.3	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	3137.7	13	13	9,021,914	121,528	78.80	Yes	7.38	
2/4/20 13:40	0.0	3177.2	9	0	9,178,051	156,137	84.00	Yes	8.84	
2/13/20 11:05	0.0	3239.9	10	10	9,456,431	278,380	68.20	Yes	8.96	
2/28/20 15:40	0.0	3416.4	10	10	10,073,197	616,766	34.20	Yes	8.98	
3/4/20 11:30	0.0	3472.2	10	10	10,260,777	187,580	38.70	Yes	8.85	
3/18/20 15:50	0.0	3502.4	10	14	10,373,178	112,401	68.50	Yes	8.66	
3/31/20 13:30	0.0	3573.0	10	10	10,599,779	226,601	62.20	Yes	8.94	
4/6/20 13:30	0.0	3644.4	9	10	10,856,710	256,931	54.80	Yes	7.93	
4/17/20 16:00	0.0	3734.6	10	9	11,156,534	299,824	41.50	Yes	7.96	

**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 <sup>1</sup> )	DPE System Enclosure LEL (Meter GT7911) <sup>2</sup> .	DPE System Transfer Pump Total Operating Hours (Meter P-5501)	Number of Active Groundwater Extraction Wells (out of 18 Wells <sup>3</sup> )	Number of Active Soil Vapor Extraction Wells (out of 20 Wells <sup>4</sup> )	Groundwater Extracted Volume (Totalizer FT7001)	Groundwater Extracted Volume (calculated per period) <sup>5</sup> .	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	
4/20/20 13:50	0.0	3765.9	9	9	11,245,437	88,903	52.80	Yes	8.38	
5/1/20 16:15	0.0	3854.2	9	10	11,540,845	295,408	54.50	Yes	8.50	
5/6/20 13:30	0.0	3908.8	9	10	11,691,273	150,428	55.60	Yes	8.25	
5/13/20 10:15	0.0	3930.1	9	10	11,747,891	56,618	49.60	Yes	8.76	
5/19/20 13:20	0.0	4004.1	10	10	11,941,723	250,450	49.70	Yes	8.74	
5/26/20 11:45	0.0	4055.7	9	10	12,060,302	118,579	32.40	Yes	8.72	
6/6/20 14:30	0.0	4112.1	7	10	12,199,807	139,505	38.20	Yes	8.64	
7/1/20 17:00	0.0	4128.5	10	10	12,232,233	32,426	81.10	Yes	8.88	
7/10/20 10:30	0.0	4207.4	10	10	12,544,484	312,251	76.90	Yes	8.94	
8/7/20 13:45	0.0	4236.5	10	10	12,654,351	109,867	75.60	No	11.50	
8/10/20 10:10	0.0	4266.1	10	10	12,781,634	127,283	74.70	No	--	
8/19/20 13:30	0.0	4363.9	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	4413.6	10	0	13,326,665	169,585	65.00	Yes	7.37	GW on, SVE off
9/2/20 9:30	0.0	4486.9	10	0	13,590,662	263,997	50.40	Yes	7.73	SVE off
7/16/21 10:10	0.0	4578.9	5	5	14,653,281	1,062,619	62.00	Yes	8.11	NPDES on 7/12/21
7/21/21 12:16	0.0	4604.7	5	5	14,751,980	98,699	68.90	Yes	8.21	
7/30/21 10:25	0.0	4648.4	5	5	14,891,440	139,460	0.00	No	--	On
8/5/21 11:30	0.0	4695.6	7	7	15,037,452	146,012	0.10	No	--	On
8/11/21 12:30	0.0	4751.6	7	7	15,196,691	159,239	0.00	No	--	On
8/17/21 0:00	0.0	4799.5	7	7	15,334,341	137,650	0.40	No	--	On
8/27/21 0:00	0.0	4801.2	7	7	15,339,211	4,870	0.40	No	--	On
9/1/21 0:00	0.0	4852.8	7	7	15,466,470	575,030	0.50	Yes	7.95	On
9/7/21 11:15	0.0	4906.8	7	7	15,588,481	122,011	42.00	Yes	7.05	On
9/15/21 12:10	0.0	4983.6	7	7	15,759,349	170,868	41.30	No	--	On
9/24/21 11:30	0.0	5048.4	8	8	15,902,214	142,865	42.30	No	--	On
9/30/21 11:36	0.0	5092.9	8	8	15,999,961	660,750	36.60	Yes	7.00	On
10/6/21 11:50	0.0	5128.8	8	8	16,069,320	69,359	33.40	No	--	On
10/18/21 13:25	0.0	5218.0	8	8	16,251,044	348,830	0.20	Yes	7.90	On, System off week of 10/11 for repairs
10/25/21 13:00	0.0	5272.7	7	7	16,353,193	102,149	22.70	Yes	7.30	On
11/12/21 10:34	0.0	5300.3	5	5	16,405,031	51,838	29.10	Yes	6.50	On
11/19/21 11:40	0.0	5360.5	5	5	16,488,931	83,900	19.90	Yes	7.00	On
11/24/21 10:30	0.0	5378.3	5	5	16,515,525	26,594	30.50	Yes	7.60	On
11/29/21 13:00	0.0	5413.7	5	5	16,571,580	56,055	25.00	Yes	7.35	On
12/16/21 10:30	0.0	5536.0	5	5	16,769,554	197,974	70.30	Yes	7.61	On
12/20/21 12:30	0.0	5543.3	7	7	16,799,942	30,388	72.10	Yes	7.83	On

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 <sup>3</sup>	Lower Explosive Limit <sup>4</sup>	Post-Blower GRO Concentration <sup>5</sup>	Period VOCs Mass Removal Rate <sup>6</sup>	Period Discharge Time <sup>7</sup>	Cumulative VOCs Mass Removed <sup>8</sup>	
	mm/dd/yy hh:mm <sup>1</sup>	Blower ID <sup>2</sup>	hours	hours	% open	in Hg	in Hg	°F	scfm	in H <sub>2</sub> O	°F	scfm	ppmv	%	ppmv	lbs/day	days	
<b>DPE System Soil Vapor Extraction Testing: 12/05/17</b>																		
<b>DPE System Soil Vapor Extraction Start-up: 12/11/17</b>																		
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 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 <sup>3</sup>	Lower Explosive Limit <sup>4</sup> (VSP-801)	Post-Blower GRO Concentration <sup>5</sup> (Lab. Data)	Period VOCs Mass Removal Rate <sup>6</sup>	Period Discharge Time <sup>7</sup>	Cumulative VOCs Mass Removed <sup>8</sup>	
	mm/dd/yy hh:mm <sup>1</sup>	Blower ID <sup>2</sup>	hours	hours	% open	in Hg	in Hg	°F	scfm	in H <sub>2</sub> 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 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 <sup>3</sup>	Lower Explosive Limit <sup>4</sup>	Post-Blower GRO Concentration <sup>5</sup>	Period VOCs Mass Removal Rate <sup>6</sup>	Period Discharge Time <sup>7</sup>	Cumulative VOCs Mass Removed <sup>8</sup>	
	mm/dd/yy hh:mm <sup>1</sup>	Blower ID <sup>2</sup>	hours	hours	% open	in Hg	in Hg	°F	scfm	in H <sub>2</sub> 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	#VALUE!	0.1	#VALUE!	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	#VALUE!	0.0	#VALUE!	SVE not operating properly due to VCV
	702	5,022.5	0.0	0														
	703	14.1	0.0	0														



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 <sup>3</sup>	Lower Explosive Limit <sup>4</sup>	Post-Blower GRO Concentration <sup>5</sup>	Period VOCs Mass Removal Rate <sup>6</sup>	Period Discharge Time <sup>7</sup>		Cumulative VOCs Mass Removed <sup>8</sup>
	mm/dd/yy hh:mm <sup>1</sup>	Blower ID <sup>2</sup>	hours	hours	% open	in Hg	in Hg	°F	scfm	in H <sub>2</sub> O	°F	scfm	ppmv	%	ppmv	lbs/day		days
7/16/21 11:30	701	4,338.9	229.2	10	1.4	6.4	70.6	146	13.2	39.4	296	3.1	#N/A	#N/A	0.30	9.5	517.13	
	702	5,251.2	228.7	10														
	703	14.1	0.0	0														
7/21/21 13:30	701	4,061.0	-277.9	10	1.4	6.4	77.0	155	10.8	44.9	290	8.0	#N/A	#N/A	0.76	5.1	521.00	
	702	5,373.3	122.1	10														
	703	14.1	0.0	0														
7/30/21 10:25	701	4,633.5	572.5	10	1.5	6.4	81.1	155	12.4	48.7	290	7.2	#N/A	#N/A	0.68	23.9	537.31	
	702	5,545.8	172.5	10														
	703	14.1	0.0	0														
8/5/21 11:25	701	4,778.5	145.0	10	1.5	5.7	83.9	157	10.2	53.8	296	10.8	#N/A	#N/A	1.05	6.0	543.63	
	702	5,690.8	145.0	10														
	703	14.1	0.0	0														
8/11/21 12:16	701	4,905.4	126.9	10	1.7	1.9	81.3	183	15.9	48.4	344	10.2	#N/A	#N/A	1.15	5.3	549.72	
	702	5,817.8	127.0	10														
	703	14.1	0.0	0														
8/17/21 10:25	701	5,038.9	133.5	0	1.5	11.2	64.3	243	7.1	45.9	236	7.1	#N/A	#N/A	0.55	5.6	552.77	
	702	5,951.1	133.3	0														
	703	14.1	0.0	0														
8/27/21 9:40	701	5,042.2	3.3	0	2.0	2.2	61.5	248	13.1	46.7	340	101.4	#N/A	#N/A	11.29	0.1	554.32	
	702	5,954.4	3.3	0														
	703	14.1	0.0	0														
9/1/21 11:05	701	5,139.8	97.6	0	1.5	13.3	63.6	254	6.8	61.9	229	19.9	#N/A	#N/A	1.49	4.1	560.39	
	702	6,052.0	97.6	0														
	703	14.1	0.0	0														
9/7/21 11:15	701	5,242.8	103.0	0	1.5	13.2	65.1	249	9.2	60.0	227	17.1	#N/A	#N/A	1.27	4.3	565.85	
	702	6,155.1	103.1	0														
	703	14.1	0.0	0														
9/15/21 12:15	701	5,384.5	141.7	0	1.5	8.8	68.0	248	9.8	47.6	278	11.9	#N/A	#N/A	1.08	5.9	572.25	
	702	6,296.7	141.6	0														
	703	14.1	0.0	0														
9/24/21 11:30	701	5,490.4	105.9	0	1.5	7.5	61.2	254	9.7	30.8	298	6.0	#N/A	#N/A	0.59	4.4	574.83	
	702	6,398.6	101.9	0														
	703	14.1	0.0	0														
9/30/21 13:00	701	5,552.0	61.6	0	1.4	8.2	58.8	255	8.9	36.3	286	8.6	#N/A	#N/A	0.81	2.7	577.03	
	702	6,464.2	65.6	0														
	703	14.1	0.0	0														
10/6/21 11:55	701	5,597.0	45.0	0	1.5	8.7	60.2	256	14.0	33.9	281	8.1	#N/A	#N/A	0.75	1.9	578.43	
	702	6,509.2	45.0	0														
	703	14.1	0.0	0														
10/18/21 13:22	701	5,681.5	84.5	50	1.6	5.1	57.3	121	5.9	#N/A	249	1.7	#N/A	#N/A	0.14	3.5	578.92	TT-704 sensor broken
	702	6,593.7	84.5	50														
	703	14.1	0.0	0														
10/25/21 13:06	701	5,763.7	82.2	50	2.2	10.7	57.7	196	9.0	#N/A	188	8.4	#N/A	#N/A	0.52	3.4	580.69	TT-704 sensor broken
	702	6,675.9	82.2	50														
	703	14.1	0.0	0														
11/12/21 10:45	701	5,767.4	3.7	0	1.5	12.0	57.3	217	13.0	#N/A	187	9.0	#N/A	#N/A	0.55	0.2	580.78	TT-704 sensor broken
	702	6,679.6	3.7	0														
	703	14.1	0.0	0														
11/19/21 11:55	701	5,801.0	33.6	50	1.7	1.7	48.5	215	15.0	#N/A	285	0.1	#N/A	#N/A	0.01	1.4	580.79	TT-704 sensor broken
	702	6,713.2	33.6	50														
	703	14.1	0.0	0														
11/24/21 10:40	701	5,849.0	48.0	50	1.4	1.1	48.0	122	8.2	#N/A	294	0.1	#N/A	#N/A	0.01	2.0	580.81	
	702	6,761.3	48.1	50														
	703	14.1	0.0	0														
11/29/21 13:02	701	5,920.9	71.9	50	1.4	4.2	61.5	74	18.3	#N/A	265	0.0	#N/A	#N/A	0.00	3.0	580.79	
	702	6,833.2	71.9	50														
	703	14.1	0.0	0														

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 <sup>3</sup>	Lower Explosive Limit <sup>4</sup>	Post-Blower GRO Concentration <sup>5</sup>	Period VOCs Mass Removal Rate <sup>6</sup>	Period Discharge Time <sup>7</sup>	Cumulative VOCs Mass Removed <sup>8</sup>	
mm/dd/yy hh:mm <sup>1</sup>	Blower ID <sup>2</sup>	hours	hours	% open	in Hg	in Hg	°F	scfm	in H <sub>2</sub> O	°F	scfm	ppmv	%	ppmv	lbs/day	days	lbs	
12/16/21 10:30	701	6,177.6	256.7	50	1.7	4.5	57.4	101	7.8	#N/A	264	0.0	#N/A	570	0.00	10.7	580.81	
	702	7,089.8	256.6	50														
	703	14.1	0.0	0														
12/20/21 12:35	701	6,205.8	28.2	50	1.6	3.3	43.7	81	14.1	#N/A	281	0.0	#N/A	#N/A	0.00	1.2	580.79	
	702	7,118.0	28.2	50														
	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 <sup>2</sup> (VSP-801)	GRO Mass Removal Rate <sup>3</sup>	Cumulative GRO Mass Removed <sup>4</sup>	Benzene Concentration <sup>5</sup> (VSP-801)	Benzene Removal Rate <sup>6</sup>	Cumulative Benzene Mass Removed <sup>7</sup>
mm/dd/yy hh:mm <sup>1</sup>	cumulative hours	scfm	ppmv	lbs/day	lbs	ppmv	lbs/day	lbs
<b>DPE System Soil Vapor Extraction Testing: 12/05/17</b>								
<b>DPE System Soil Vapor Extraction Start-up: 12/11/17</b>								
12/14/17 14:00	71.9	330	290	36.36	109	2.4	0.2350	0.70
12/20/17 12:40	149.8	315	160	19.15	199	0.91	0.0851	1.22
12/27/17 11:55	244.5	344	100	13.07	263	0.48	0.0490	1.49
2/20/18 13:40	729.1	165	18	1.13	406	0.28	0.0137	2.12
3/14/18 11:50	1,033.4	208	20	1.58	423	0.17	0.0105	2.27
5/18/18 15:15	1,172.7	175	34	2.26	434	0.0011	0.0001	2.31
7/26/18 14:15	2,100.4	283	17	1.83	513	0.046	0.0039	2.38
10/18/18 14:10	2,453.3	149	38	2.15	543	0.640	0.0283	2.62
4/17/20 13:12	3,820.6	231	11	0.97	631	0.002	0.0002	3.43
6/15/21 8:10	--	--	4.8	--	--	0.021	--	--
8/13/21 9:23	5,817.8	344	7.9	1.03	714	0.0013	0.0001	3.44
12/16/21 13:10	7,089.8	264	0.57	0.06	743	0.0091	0.0007	3.46

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-01	11/28/17 8:47	#N/A	#N/A	7.75	14.58	6.83	#N/A	#N/A	174.4	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-01	12/5/17 11:35	26.50	2.00	24.50	14.58	-9.92	2 / 0.5	No	4,291	4,116.60	#N/A	Groundwater elevation estimated based on transducer setting
DPE-01	12/13/17 9:30	26.50	4.40	22.10	14.58	-7.52	2 / 0.5	Yes	7,715.35	3,424.35	0.0	Low yield
DPE-01	12/13/17 14:00	26.50	1.20	25.30	14.58	-10.72	2 / 0.5	Yes	7,953.10	237.75	0.0	Low yield
DPE-01	12/14/17 10:25	26.50	1.80	24.70	14.58	-10.12	2 / 0.5	Yes	8,880.60	927.50	0.0	Low yield
DPE-01	12/20/17 12:50	26.50	3.30	23.20	14.58	-8.62	2 / 0.5	Yes	11,126.90	2,246.30	0.0	Low yield
DPE-01	12/27/17 12:15	26.50	3.64	22.86	14.58	-8.28	2 / 0.5	Yes	14,887.30	3,760.40	0.0	Low yield
DPE-01	1/5/18 16:20	26.50	1.00	25.50	14.58	-10.92	2 / 0.5	Yes	18,939.00	4,051.70	0.0	Low yield
DPE-01	1/9/18 16:25	26.50	1.00	25.50	14.58	-10.92	4 / 0.5	Yes	19,525.90	586.90	1.0	
DPE-01	1/18/18 14:20	26.50	2.00	24.50	14.58	-9.92	4 / 0.5	Yes	23,294.10	3,768.20	0.0	Low yield
DPE-01	1/24/18 13:30	26.50	2.00	24.50	14.58	-9.92	2 / 0.5	Yes	27,517.80	4,223.70	0.0	Low yield
DPE-01	2/1/18 10:10	26.50	4.65	21.85	14.58	-7.27	2 / 0.5	Yes	33,542.00	6,024.20	0.0	Low yield
DPE-01	2/8/18 10:00	26.50	4.24	22.26	14.58	-7.68	2 / 0.5	Yes	37,141.60	3,599.60	0.0	Low yield
DPE-01	2/13/18 9:50	26.50	1.00	25.50	14.58	-10.92	2 / 0.5	No	41,896.00	4,754.40	1.0	
DPE-01	2/20/18 14:00	26.50	2.00	24.50	14.58	-9.92	2 / 0.5	Yes	45,858.20	3,962.20	0.0	Low yield
DPE-01	2/28/18 14:00	26.50	0.80	25.70	14.58	-11.12	2 / 0.5	Yes	50,555.80	4,697.60	0.0	Low yield
DPE-01	3/8/18 11:30	26.50	2.00	24.50	14.58	-9.92	2 / 0.5	Yes	55,055.20	4,499.40	0.0	Low yield
DPE-01	3/14/18 12:00	26.50	4.95	21.55	14.58	-6.97	2 / 0.5	Yes	60,016.90	4,961.70	0.0	Low yield
DPE-01	5/8/18 13:00	26.50	4.88	21.62	14.58	-7.04	2 / 0.5	Yes	60,641.10	624.20	0.0	Low yield
DPE-01	5/17/18 15:45	26.50	13.11	13.39	14.58	1.19	2 / 0.5	No	67,397.40	6,756.30	0.0	Off
DPE-01	5/23/18 15:30	26.50	14.01	12.49	14.58	2.09	2 / 0.5	No	67,397.40	0.00	0.0	Off
DPE-01	5/29/18 16:30	26.50	1.15	25.35	14.58	-10.77	2 / 0.5	Yes	67,499.30	101.90	0.0	
DPE-01	6/7/18 13:15	26.50	0.56	25.94	14.58	-11.36	2 / 0.5	Yes	70,988.90	3,489.60	0.0	
DPE-01	6/15/18 13:00	26.50	2.89	23.61	14.58	-9.03	2 / 0.5	Yes	74,571.40	3,582.50	0.0	
DPE-01	6/18/18 12:20	26.50	0.49	26.02	14.58	-11.44	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-01	7/5/18 12:00	26.50	13.97	12.53	14.58	2.05	2 / 0.5	No	79,523.10	4,951.70	0.0	Off
DPE-01	7/11/18 12:30	26.50	3.27	23.23	14.58	-8.65	2 / 0.5	Yes	79,658.60	135.50	0.0	
DPE-01	7/19/18 14:30	26.50	1.33	25.17	14.58	-10.59	2 / 0.5	Yes	80,377.10	718.50	0.0	Off
DPE-01	7/26/18 15:00	26.50	0.50	26.00	14.58	-11.42	2 / 0.5	Yes	85,657.40	5,280.30	0.0	
DPE-01	8/3/18 15:10	26.50	9.14	17.36	14.58	-2.78	2 / 0.5	No	89,604.50	3,947.10	0.0	Off
DPE-01	8/7/18 12:45	26.50	13.63	12.87	14.58	1.71	2 / 0.5	No	89,604.50	0.00	0.0	Off
DPE-01	8/15/18 14:00	26.50	13.04	13.46	14.58	1.12	2 / 0.5	No	89,604.50	0.00	0.0	Off
DPE-01	10/10/18 17:05	23.00	1.91	21.09	14.58	-6.51	2 / 0.5	No	89,772.40	167.90	1.2	Recalibrated transducer depth after fall restart
DPE-01	10/18/18 14:15	23.00	0.86	22.14	14.58	-7.56	2 / 0.5	Yes	90,691.00	918.60	1.2	
DPE-01	10/26/18 16:10	23.00	0.85	22.15	14.58	-7.57	2 / 0.5	Yes	91,745.90	1,054.90	1.2	
DPE-01	11/7/18 16:10	23.00	0.60	22.40	14.58	-7.82	2 / 0.5	Yes	91,977.80	231.90	1.2	
DPE-01	11/13/18 13:20	23.00	0.90	22.10	14.58	-7.52	2 / 0.5	Yes	96,666.60	4,688.80	0.0	
DPE-01	11/21/18 14:10	23.00	0.75	22.25	14.58	-7.67	2 / 0.5	Yes	100,764.30	4,097.70	0.0	
DPE-01	1/11/19 10:30	23.00	15.13	7.87	14.58	6.71	2 / 0.5	No	103,258.10	2,493.80	0.0	Off
DPE-01	1/17/19 14:15	23.00	14.97	8.03	14.58	6.55	2 / 0.5	No	103,258.10	0.00	0.0	Off
DPE-01	1/24/19 13:15	23.00	1.46	21.54	14.58	-6.96	2 / 0.5	No	103,351.70	93.60	0.8	
DPE-01	1/29/19 12:15	23.00	2.00	21.00	14.58	-6.42	2 / 0.5	No	105,500.20	2,148.50	0.0	
DPE-01	2/21/19 13:45	23.00	0.90	22.10	14.58	-7.52	2 / 0.5	No	108,195.10	2,694.90	0.0	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-01	2/26/19 16:00	23.00	1.53	21.47	14.58	-6.89	2 / 0.5	No	108,195.10	0.00	0.0	
DPE-01	3/6/19 13:00	23.00	2.00	21.00	14.58	-6.42	2 / 0.5	No	120,229.20	12,034.10	0.0	
DPE-01	3/14/19 12:10	23.00	5.78	17.22	14.58	-2.64	2 / 0.5	No	127,151.90	6,922.70	0.0	
DPE-01	3/22/19 14:30	23.00	5.10	17.90	14.58	-3.32	2 / 0.5	No	127,151.90	0.00	0.0	
DPE-01	3/29/19 13:00	23.00	1.49	21.51	14.58	-6.93	2 / 0.5	No	134,601.60	7,449.70	0.0	
DPE-01	4/2/19 14:15	23.00	2.00	21.00	14.58	-6.42	2 / 0.5	No	139,801.60	5,200.00	0.0	
DPE-01	4/11/19 14:10	23.00	1.26	21.74	14.58	-7.16	6 / 0.5	No	141,856.40	2,054.80	1.6	
DPE-01	4/17/19 13:10	23.00	12.59	10.41	14.58	4.17	6 / 0.5	No	146,413.50	4,557.10	0.0	Off
DPE-01	4/25/19 15:15	23.00	2.45	20.55	14.58	-5.97	6 / 0.5	No	146,563.80	150.30	0.0	
DPE-01	5/2/19 13:30	23.00	0.85	22.15	14.58	-7.57	6 / 0.5	No	152,136.80	5,573.00	1.6	
DPE-01	5/9/19 15:10	23.00	2.96	20.04	14.58	-5.46	6 / 0.5	No	160,631.80	8,495.00	1.6	
DPE-01	5/17/19 15:15	23.00	0.70	22.30	14.58	-7.72	6 / 0.5	No	169,225.20	8,593.40	1.6	
DPE-01	5/23/19 13:10	23.00	1.02	21.98	14.58	-7.40	6 / 0.5	No	174,883.30	5,658.10	1.8	
DPE-01	5/30/19 14:35	23.00	1.31	21.69	14.58	-7.11	6 / 0.5	No	182,162.2	7,278.90	1.2	
DPE-01	6/6/19 16:10	23.00	1.38	21.62	14.58	-7.04	6 / 0.5	No	190,952.80	8,790.60	1.4	
DPE-01	8/2/19 15:00	23.00	14.15	8.85	14.58	5.73	6 / 0.5	No	195,177.0	4,224.2	0.00	DPE system expansion baseline event before system startup - System off
DPE-01	8/15/19 14:14	23.00	13.40	9.60	14.58	4.98	6 / 0.5	No	195,187.3	10.3	0.0	Off
DPE-01	8/21/19 12:03	23.00	12.97	10.03	14.58	4.55	6 / 0.5	No	195,187.3	0.0	0.0	Off
DPE-01	9/5/19 13:35	23.00	3.22	19.78	14.58	-5.20	6 / 0.5	Yes	195,245.1	57.8	1.4	
DPE-01	9/9/19 11:54	23.00	1.93	21.07	14.58	-6.49	6 / 0.5	No	195,344.2	99.1	1.2	
DPE-01	9/23/19 15:30	23.00	1.64	21.36	14.58	-6.78	6 / 0.5	Yes	198,818.2	3,474.0	1.2	
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-01												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4001)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-01	7/16/21 10:12	23.00	1.23	21.77	14.58	-7.19	3 / 0.5	Yes	335,627.80	18,350.80	1.1	On
DPE-01	7/21/21 13:45	23.00	1.46	21.54	14.58	-6.96	3 / 0.5	Yes	343,933.11	8,305.31	1.1	On
DPE-01	7/30/21 10:45	23.00	1.03	21.97	14.58	-7.39	3 / 0.5	Yes	355,665.33	11,732.22	1.1	On
DPE-01	8/5/21 11:30	23.00	1.01	21.99	14.58	-7.41	3 / 0.5	Yes	364,687.20	9,021.87	1.1	On
DPE-01	8/11/21 12:25	23.00	0.92	22.08	14.58	-7.50	3 / 0.5	Yes	371,175.22	6,488.02	1.1	On
DPE-01	8/17/21 10:57	23.00	0.95	22.05	14.58	-7.47	3 / 0.5	Yes	377,295.30	6,120.08	1.0	On
DPE-01	8/27/21 9:54	23.00	1.49	21.51	14.58	-6.93	3 / 0.5	Yes	377,505.24	209.94	1.0	On
DPE-01	9/1/21 11:12	23.00	0.98	22.02	14.58	-7.44	3 / 0.5	Yes	383,238.80	5,733.56	1.0	On
DPE-01	9/7/21 11:24	23.00	1.25	21.75	14.58	-7.17	3 / 0.5	Yes	388,986.20	5,747.40	1.0	On
DPE-01	9/15/21 12:16	23.00	0.89	22.11	14.58	-7.53	3 / 0.5	Yes	396,984.00	7,997.80	0.9	On
DPE-01	9/24/21 11:54	23.00	1.11	21.89	14.58	-7.31	3 / 0.5	Yes	402,459.05	5,475.05	1.0	On
DPE-01	9/30/21 13:17	23.00	1.09	21.91	14.58	-7.33	3 / 0.5	Yes	405,054.86	2,595.81	0.9	On
DPE-01	10/6/21 11:58	23.00	0.59	22.41	14.58	-7.83	3 / 0.5	Yes	408,171.10	3,116.24	0.0	On
DPE-01	10/18/21 12:50	23.00	1.14	21.86	14.58	-7.28	3 / 0.5	Yes		#N/A	0.0	On
DPE-01	10/25/21 13:26	23.00	1.03	21.97	14.58	-7.39	3 / 0.5	Yes	420,241.60	#N/A	0.9	On
DPE-01	11/12/21 10:50	23.00	1.07	21.93	14.58	-7.35	3 / 0.5	Yes	422,412.70	2,171.10	1.1	On
DPE-01	11/19/21 12:00	23.00	0.92	22.08	14.58	-7.50	3 / 0.5	Yes	425,775.00	3,362.30	1.0	On
DPE-01	11/24/21 10:46	23.00	1.07	21.93	14.58	-7.35	3 / 0.5	Yes	428,165.30	2,390.30	0.0	On
DPE-01	11/29/21 13:16	23.00	2.34	20.66	14.58	-6.08	3 / 0.5	Yes	431,755.40	3,590.10	1.2	On
DPE-01	12/16/21 10:50	23.00	1.48	21.52	14.58	-6.94	3 / 0.5	Yes	447,457.90	15,702.50	1.1	On
DPE-01	12/20/21 12:50	23.00	1.88	21.12	14.58	-6.54	3 / 0.5	Yes	449,327.30	29,085.70	1.3	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-02	11/28/17 8:49	#N/A	#N/A	7.75	14.88	7.13	#N/A	#N/A	189.13	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-02	12/5/17 11:35	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	No	21,102	20,912.87	#N/A	Groundwater elevation estimated based on transducer setting
DPE-02	12/13/17 9:30	26.50	2.01	24.49	14.88	-9.61	2 / 0.5	Yes	41,602.11	20,500.11	3.6	
DPE-02	12/13/17 14:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	42,655.30	1,053.19	3.8	
DPE-02	12/14/17 10:25	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	46,726.00	4,070.70	3.8	
DPE-02	12/20/17 12:50	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	62,273.60	15,547.60	3.8	
DPE-02	12/27/17 0:15	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	81,107.50	18,833.90	3.6	
DPE-02	1/5/18 16:20	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	100,386.80	19,279.30	3.6	
DPE-02	1/9/18 16:25	26.50	4.00	22.50	14.88	-7.62	4 / 0.5	Yes	102,562.00	2,175.20	3.4	
DPE-02	1/18/18 14:20	26.50	4.00	22.50	14.88	-7.62	4 / 0.5	Yes	117,908.80	15,346.80	3.8	
DPE-02	1/24/18 13:30	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	138,159.00	20,250.20	3.2	
DPE-02	2/1/18 10:10	26.50	2.81	23.69	14.88	-8.81	2 / 0.5	Yes	172,231.90	34,072.90	3.8	
DPE-02	2/8/18 10:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	192,486.30	20,254.40	4.8	
DPE-02	2/13/18 9:50	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	No	221,598.10	29,111.80	4.2	
DPE-02	2/20/18 14:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	247,104.00	25,505.90	4.4	
DPE-02	2/28/18 14:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	275,636.50	28,532.50	4.0	
DPE-02	3/8/18 11:30	26.50	7.51	18.99	14.88	-4.11	2 / 0.5	Yes	300,986.90	25,350.40	4.6	
DPE-02	3/14/18 12:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	332,181.90	31,195.00	3.9	
DPE-02	5/8/18 13:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	335,810.50	3,628.60	4.0	
DPE-02	5/17/18 15:45	26.50	12.63	13.87	14.88	1.01	2 / 0.5	No	377,365.90	41,555.40	0.0	Off
DPE-02	5/23/18 15:30	26.50	14.03	12.47	14.88	2.41	2 / 0.5	No	377,365.90	0.00	0.0	Off
DPE-02	5/29/18 16:30	26.50	1.75	24.75	14.88	-9.87	2 / 0.5	Yes	377,688.00	322.10	3.8	
DPE-02	6/7/18 13:15	26.50	2.12	24.38	14.88	-9.50	2 / 0.5	Yes	398,838.90	21,150.90	4.0	
DPE-02	6/15/18 13:00	26.50	2.00	24.50	14.88	-9.62	2 / 0.5	Yes	422,423.80	23,584.90	4.0	
DPE-02	6/18/18 12:20	26.50	2.01	24.49	14.88	-9.61	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-02	7/5/18 12:00	26.50	13.88	12.62	14.88	2.26	2 / 0.5	No	451,191.60	28,767.80	0.0	Off
DPE-02	7/11/18 12:30	26.50	8.86	17.64	14.88	-2.76	2 / 0.5	Yes	451,321.20	129.60	4.8	
DPE-02	7/19/18 14:30	26.50	4.93	21.57	14.88	-6.69	2 / 0.5	Yes	455,610.10	4,288.90	5.0	
DPE-02	7/26/18 15:00	26.50	6.50	20.00	14.88	-5.12	2 / 0.5	Yes	489,067.10	33,457.00	5.2	
DPE-02	8/3/18 15:10	26.50	11.60	14.90	14.88	-0.02	2 / 0.5	No	512,926.90	23,859.80	0.0	Off
DPE-02	8/7/18 12:45	26.50	13.30	13.20	14.88	1.68	2 / 0.5	No	512,926.90	0.00	0.0	Off
DPE-02	8/15/18 14:00	26.50	13.16	13.34	14.88	1.54	2 / 0.5	No	512,926.90	0.00	0.0	Off
DPE-02	10/10/18 17:05	23.00	2.20	20.80	14.88	-5.92	2 / 0.5	No	513,479.10	552.20	5.4	Recalibrated transducer depth after fall restart
DPE-02	10/18/18 14:15	23.00	2.38	20.62	14.88	-5.74	2 / 0.5	Yes	517,278.20	3,799.10	5.2	
DPE-02	10/26/18 16:10	23.00	1.83	21.17	14.88	-6.29	2 / 0.5	Yes	522,271.30	4,993.10	5.2	
DPE-02	11/7/18 16:10	23.00	2.40	20.60	14.88	-5.72	2 / 0.5	Yes	523,356.20	1,084.90	5.0	
DPE-02	11/13/18 13:20	23.00	2.00	21.00	14.88	-6.12	2 / 0.5	Yes	548,623.80	25,267.60	4.2	
DPE-02	11/21/18 14:10	23.00	2.00	21.00	14.88	-6.12	2 / 0.5	Yes	571,650.10	23,026.30	4.4	
DPE-02	1/11/19 10:30	23.00	16.05	6.95	14.88	7.93	2 / 0.5	No	585,292.80	13,642.70	0.0	Off
DPE-02	1/17/19 14:15	23.00	16.03	6.97	14.88	7.91	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	1/24/19 13:15	23.00	14.53	8.47	14.88	6.41	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	1/29/19 12:15	23.00	14.26	8.74	14.88	6.14	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	2/21/19 13:45	23.00	12.98	10.02	14.88	4.86	2 / 0.5	No	585,292.80	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-02												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4002)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-02	2/26/19 16:00	23.00	13.24	9.76	14.88	5.12	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	3/6/19 13:00	23.00	13.24	9.76	14.88	5.12	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	3/14/19 12:10	23.00	14.44	8.56	14.88	6.32	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	3/22/19 14:30	23.00	13.19	9.81	14.88	5.07	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	3/29/19 13:00	23.00	13.88	9.12	14.88	5.76	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	4/2/19 14:15	23.00	13.18	9.82	14.88	5.06	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	4/11/19 14:10	23.00	14.19	8.81	14.88	6.07	2 / 0.5	No	585,292.80	0.00	0.0	Off
DPE-02	4/17/19 13:10	23.00	5.00	18.00	14.88	-3.12	5 / 0.5	No	585,300.20	7.40	2.8	
DPE-02	4/25/19 15:15	23.00	12.89	10.11	14.88	4.77	5 / 0.5	No	597,961.90	12,661.70	0.0	Off
DPE-02	5/2/19 13:30	23.00	12.51	10.49	14.88	4.39	5 / 0.5	No	597,961.90	0.00	0.0	Off
DPE-02	5/9/19 15:10	23.00	13.31	9.69	14.88	5.19	5 / 0.5	No	597,961.90	0.00	0.0	Off
DPE-02	5/17/19 15:15	23.00	12.57	10.43	14.88	4.45	5 / 0.5	No	597,961.90	0.00	0.0	Off
DPE-02	5/23/19 13:10	23.00	13.30	9.70	14.88	5.18	5 / 0.5	No	597,961.90	0.00	0.0	Off
DPE-02	5/30/19 14:35	23.00	12.60	10.40	14.88	4.48	5 / 0.5	No	597,961.9	0.00	0.0	Off
DPE-02	6/6/19 16:10	23.00	12.63	10.37	14.88	4.51	5 / 0.5	No	597,961.90	0.00	0.0	Off
DPE-02	8/2/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/15/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/21/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/5/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/9/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
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	5/6/2010	#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-02												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4002)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-02	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/17/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	12/20/2021	#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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-03	11/28/17 8:40	#N/A	#N/A	7.04	13.94	6.90	#N/A	#N/A	41.15	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-03	12/5/17 11:35	18.50	2.00	16.50	13.94	-2.56	2 / 0.5	No	32,464	32,422.85	#N/A	Groundwater elevation estimated based on transducer setting
DPE-03	12/13/17 9:30	18.50	3.70	14.80	13.94	-0.86	2 / 0.5	Yes	64,706.16	32,242.16	5.6	
DPE-03	12/13/17 14:00	18.50	3.60	14.90	13.94	-0.96	2 / 0.5	Yes	66,126.60	1,420.44	5.6	
DPE-03	12/14/17 10:25	18.50	3.30	15.20	13.94	-1.26	2 / 0.5	Yes	72,950.20	6,823.60	5.4	
DPE-03	12/20/17 12:50	18.50	4.50	14.00	13.94	-0.06	2 / 0.5	Yes	99,486.30	26,536.10	5.4	
DPE-03	12/27/17 12:15	18.50	4.34	14.16	13.94	-0.22	2 / 0.5	Yes	132,783.20	33,296.90	6.0	
DPE-03	1/5/18 16:20	18.50	5.25	13.25	13.94	0.69	2 / 0.5	Yes	165,740.30	32,957.10	5.6	
DPE-03	1/9/18 16:25	18.50	5.59	12.91	13.94	1.03	4 / 0.5	Yes	168,925.20	3,184.90	5.4	
DPE-03	1/18/18 14:20	18.50	5.75	12.75	13.94	1.19	4 / 0.5	Yes	199,280.40	30,355.20	5.6	
DPE-03	1/24/18 13:30	18.50	5.50	13.00	13.94	0.94	2 / 0.5	Yes	224,989.30	25,708.90	5.8	
DPE-03	2/1/18 10:10	18.50	4.80	13.70	13.94	0.24	2 / 0.5	Yes	273,883.30	48,894.00	5.8	
DPE-03	2/8/18 10:00	18.50	4.90	13.60	13.94	0.34	2 / 0.5	Yes	301,693.20	27,809.90	5.8	
DPE-03	2/13/18 9:50	18.50	3.22	15.28	13.94	-1.34	2 / 0.5	No	342,654.30	40,961.10	6.0	
DPE-03	2/20/18 14:00	18.50	5.19	13.31	13.94	0.63	2 / 0.5	Yes	378,688.10	36,033.80	6.0	
DPE-03	2/28/18 14:00	18.50	4.73	13.77	13.94	0.17	2 / 0.5	Yes	422,386.50	43,698.40	6.0	
DPE-03	3/8/18 11:30	18.50	4.38	14.12	13.94	-0.18	2 / 0.5	Yes	462,533.70	40,147.20	6.0	
DPE-03	3/14/18 12:00	18.50	5.96	12.54	13.94	1.40	2 / 0.5	Yes	507,489.90	44,956.20	6.0	
DPE-03	5/8/18 13:00	18.50	5.25	13.25	13.94	0.69	2 / 0.5	Yes	512,509.50	5,019.60	6.0	
DPE-03	5/17/18 15:45	18.50	11.81	6.69	13.94	7.25	2 / 0.5	No	572,494.50	59,985.00	0.0	Off
DPE-03	5/23/18 15:30	18.50	12.80	5.70	13.94	8.24	2 / 0.5	No	572,494.50	0.00	0.0	Off
DPE-03	5/29/18 16:30	18.50	6.34	12.16	13.94	1.78	2 / 0.5	Yes	572,927.10	432.60	5.8	
DPE-03	6/7/18 13:15	18.50	6.38	12.12	13.94	1.82	2 / 0.5	Yes	601,165.20	28,238.10	5.6	
DPE-03	6/15/18 13:00	18.50	5.71	12.79	13.94	1.15	2 / 0.5	Yes	633,496.60	32,331.40	5.6	
DPE-03	6/18/18 12:20	18.50	4.79	13.71	13.94	0.23	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-03	7/5/18 12:00	18.50	12.68	5.82	13.94	8.12	2 / 0.5	No	674,566.60	41,070.00	0.0	Off
DPE-03	7/11/18 12:30	18.50	6.01	12.49	13.94	1.45	2 / 0.5	Yes	674,763.80	197.20	5.2	
DPE-03	7/19/18 14:30	18.50	5.57	12.93	13.94	1.01	2 / 0.5	Yes	679,873.70	5,109.90	5.2	
DPE-03	7/26/18 15:00	18.50	5.94	12.56	13.94	1.38	2 / 0.5	Yes	722,222.30	42,348.60	5.2	
DPE-03	8/3/18 15:10	18.50	11.31	7.19	13.94	6.75	2 / 0.5	No	753,213.80	30,991.50	0.0	Off
DPE-03	8/7/18 12:45	18.50	12.32	6.18	13.94	7.76	2 / 0.5	No	753,213.80	0.00	0.0	Off
DPE-03	8/15/18 14:00	18.50	12.49	6.01	13.94	7.93	2 / 0.5	No	753,213.80	0.00	0.0	Off
DPE-03	10/10/18 17:05	20.50	8.69	11.81	13.94	2.13	2 / 0.5	No	753,824.70	610.90	5.2	Recalibrated transducer depth after fall restart
DPE-03	10/18/18 14:15	20.50	7.15	13.35	13.94	0.59	2 / 0.5	No	758,998.70	5,174.00	5.4	
DPE-03	10/26/18 16:10	20.50	7.77	12.73	13.94	1.21	2 / 0.5	Yes	764,990.50	5,991.80	5.4	
DPE-03	11/7/18 16:10	20.50	6.23	14.27	13.94	-0.33	2 / 0.5	Yes	766,186.00	1,195.50	5.4	
DPE-03	11/13/18 13:20	20.50	6.71	13.79	13.94	0.15	2 / 0.5	Yes	798,687.10	32,501.10	5.4	
DPE-03	11/21/18 14:10	20.50	7.14	13.36	13.94	0.58	2 / 0.5	Yes	829,760.50	31,073.40	5.4	
DPE-03	1/11/19 10:30	20.50	13.73	6.77	13.94	7.17	2 / 0.5	No	847,310.60	17,550.10	0.0	Off
DPE-03	1/17/19 14:15	20.50	13.55	6.95	13.94	6.99	2 / 0.5	No	847,310.60	0.00	0.0	Off
DPE-03	1/24/19 13:15	20.50	7.91	12.59	13.94	1.35	2 / 0.5	No	847,804.70	494.10	5.6	
DPE-03	1/29/19 12:15	20.50	5.35	15.15	13.94	-1.21	2 / 0.5	No	863,295.00	15,490.30	5.6	
DPE-03	2/21/19 13:45	20.50	5.00	15.50	13.94	-1.56	2 / 0.5	No	894,298.10	31,003.10	5.6	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-03	2/26/19 16:00	20.50	5.40	15.10	13.94	-1.16	2 / 0.5	No	934,855.90	40,557.80	5.6	
DPE-03	3/6/19 13:00	20.50	4.47	16.03	13.94	-2.09	2 / 0.5	No	987,220.90	52,365.00	5.6	
DPE-03	3/14/19 12:10	20.50	4.36	16.14	13.94	-2.20	2 / 0.5	No	1,042,793.90	55,573.00	5.8	
DPE-03	3/22/19 14:30	20.50	6.09	14.41	13.94	-0.47	2 / 0.5	No	1,042,793.90	0.00	5.8	
DPE-03	3/29/19 13:00	20.50	4.51	15.99	13.94	-2.05	2 / 0.5	No	1,099,312.50	56,518.60	5.8	
DPE-03	4/2/19 14:15	20.50	4.60	15.90	13.94	-1.96	2 / 0.5	No	1,124,361.90	25,049.40	6.0	
DPE-03	4/11/19 14:10	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,153,564.60	29,202.70	5.2	
DPE-03	4/17/19 13:10	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,180,085.70	26,521.10	5.4	
DPE-03	4/25/19 15:15	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,199,720.70	19,635.00	5.2	
DPE-03	5/2/19 13:30	20.50	6.18	14.32	13.94	-0.38	6 / 0.5	No	1,228,793.20	29,072.50	5.4	
DPE-03	5/9/19 15:10	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,276,936.30	48,143.10	5.2	
DPE-03	5/17/19 15:15	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,324,486.20	47,549.90	5.2	
DPE-03	5/23/19 13:10	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,356,658.70	32,172.50	5.6	
DPE-03	5/30/19 14:35	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,398,443.8	41,785.10	5.4	
DPE-03	6/6/19 16:10	20.50	6.00	14.50	13.94	-0.56	6 / 0.5	No	1,449,158.50	50,714.70	5.6	
DPE-03	8/2/19 15:00	20.50	12.93	7.57	13.94	6.37	6 / 0.5	No	1,474,361.0	25,202.5	0.00	DPE system expansion baseline event before system startup - System off
DPE-03	8/15/19 14:16	20.50	7.76	12.74	13.94	1.20	6 / 0.5	No	1,474,621.9	260.9	5.8	
DPE-03	8/21/19 12:04	20.50	6.25	14.25	13.94	-0.31	6 / 0.5	No	1,522,728.7	48,106.8	6.2	
DPE-03	9/5/19 13:35	20.50	7.41	13.09	13.94	0.85	6 / 0.5	Yes	1,597,116.9	74,388.2	5.6	
DPE-03	9/9/19 11:54	20.50	7.73	12.77	13.94	1.17	6 / 0.5	No	1,598,108.1	991.2	5.6	
DPE-03	9/23/19 15:30	20.50	6.97	13.53	13.94	0.41	6 / 0.5	Yes	1,617,163.8	19,055.7	5.8	
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	On
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	On
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	30,066.50	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	44,460.50	5.0	On

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-03	7/16/21 10:22	20.50	12.86	7.64	13.94	6.30	6 / 0.5	No	2,348,201.10	31,587.80	0.0	Off
DPE-03	7/21/21 10:45	20.50	12.75	7.75	13.94	6.19	6 / 0.5	No	2,348,201.10	0.00	0.0	Off
DPE-03	7/30/21 10:45	20.50	12.93	7.57	13.94	6.37	6 / 0.5	No	2,348,201.10	0.00	0.0	Off
DPE-03	8/5/21 11:32	20.50	6.11	14.39	13.94	-0.45	6 / 0.5	Yes	2,371,562.90	23,361.80	5.4	On
DPE-03	8/11/21 12:27	20.50	6.62	13.88	13.94	0.06	6 / 0.5	Yes	2,412,973.31	41,410.41	5.6	
DPE-03	8/17/21 11:00	20.50	6.72	13.78	13.94	0.16	6 / 0.5	Yes	2,449,703.00	36,729.69	5.6	On
DPE-03	8/27/21 9:54	20.50	7.59	12.91	13.94	1.03	6 / 0.5	Yes	2,450,834.50	1,131.50	6.0	On
DPE-03	9/1/21 11:14	20.50	6.45	14.05	13.94	-0.11	6 / 0.5	Yes	2,482,875.10	32,040.60	5.5	On
DPE-03	9/7/21 11:26	20.50	7.01	13.49	13.94	0.45	6 / 0.5	Yes	2,515,892.50	33,017.40	5.3	On
DPE-03	9/15/21 12:17	20.50	6.32	14.18	13.94	-0.24	6 / 0.5	Yes	2,561,947.80	46,055.30	5.4	On
DPE-03	9/24/21 11:35	20.50	7.25	13.25	13.94	0.69	6 / 0.5	Yes	2,595,855.35	33,907.55	5.2	On
DPE-03	9/30/21 13:19	20.50	7.05	13.45	13.94	0.49	6 / 0.5	Yes	2,617,152.07	21,296.72	5.4	On
DPE-03	10/6/21 12:00	20.50	7.15	13.35	13.94	0.59	6 / 0.5	Yes	2,632,172.50	15,020.43	5.5	On
DPE-03	10/18/21 13:08	20.50	8.24	12.26	13.94	1.68	6 / 0.5	Yes	2,659,357.70	27,185.20	0.0	On
DPE-03	10/25/21 13:28	20.50	8.97	11.53	13.94	2.41	6 / 0.5	Yes	2,686,159.20	26,801.50	5.5	On
DPE-03	11/12/21 10:52	20.50	5.68	14.82	13.94	-0.88	6 / 0.5	Yes	2,699,355.60	13,196.40	5.6	On
DPE-03	11/19/21 12:02	20.50	8.31	12.19	13.94	1.75	6 / 0.5	Yes	2,714,100.50	14,744.90	5.5	On
DPE-03	11/24/21 10:48	20.50	8.24	12.26	13.94	1.68	6 / 0.5	Yes	2,730,561.50	16,461.00	5.7	On
DPE-03	11/29/21 13:18	20.50	8.91	11.59	13.94	2.35	6 / 0.5	Yes	2,754,472.50	23,911.00	5.5	On
DPE-03	12/16/21 10:50	20.50	8.20	12.30	13.94	1.64	6 / 0.5	Yes	2,840,410.10	85,937.60	6.0	On
DPE-03	12/20/21 12:50	20.50	8.90	11.60	13.94	2.34	6 / 0.5	Yes	2,849,685.40	9,275.30	5.6	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-04	11/28/17 8:45	#N/A	#N/A	6.86	13.83	6.97	#N/A	#N/A	169.47	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-04	12/5/17 11:35	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	No	18,140	17,970.53	#N/A	Groundwater elevation estimated based on transducer setting
DPE-04	12/13/17 9:30	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	34,380.70	16,240.70	2.8	
DPE-04	12/13/17 14:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	35,198.70	818.00	2.8	
DPE-04	12/14/17 10:25	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	38,377.90	3,179.20	2.6	
DPE-04	12/20/17 12:50	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	50,755.30	12,377.40	3.0	
DPE-04	12/27/17 12:15	18.50	1.87	16.63	13.83	-2.80	2 / 0.5	Yes	66,641.50	15,886.20	2.8	
DPE-04	1/5/18 16:20	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	81,882.00	15,240.50	3.0	
DPE-04	1/9/18 16:25	18.50	4.20	14.30	13.83	-0.47	4 / 0.5	Yes	83,508.90	1,626.90	2.4	
DPE-04	1/18/18 14:20	18.50	4.00	14.50	13.83	-0.67	4 / 0.5	Yes	93,863.00	10,354.10	2.6	
DPE-04	1/24/18 13:30	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	107,424.70	13,561.70	2.4	
DPE-04	2/1/18 10:10	18.50	1.85	16.65	13.83	-2.82	2 / 0.5	Yes	132,923.90	25,499.20	2.8	
DPE-04	2/8/18 10:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	147,384.70	14,460.80	3.0	
DPE-04	2/13/18 9:50	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	No	166,068.90	18,684.20	2.8	
DPE-04	2/20/18 14:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	182,342.10	16,273.20	3.2	
DPE-04	2/28/18 14:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	202,601.10	20,259.00	3.0	
DPE-04	3/8/18 11:30	18.50	6.50	12.00	13.83	1.83	2 / 0.5	Yes	222,348.90	19,747.80	3.4	
DPE-04	3/14/18 12:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	244,202.10	21,853.20	3.4	
DPE-04	5/8/18 13:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	246,855.30	2,653.20	3.2	
DPE-04	5/17/18 15:45	18.50	10.37	8.13	13.83	5.70	2 / 0.5	No	277,200.10	30,344.80	0.0	Off
DPE-04	5/23/18 15:30	18.50	12.80	5.70	13.83	8.13	2 / 0.5	No	277,200.10	0.00	0.0	Off
DPE-04	5/29/18 16:30	18.50	1.64	16.86	13.83	-3.03	2 / 0.5	Yes	277,502.80	302.70	3.2	
DPE-04	6/7/18 13:15	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	292,757.30	15,254.50	3.4	
DPE-04	6/15/18 13:00	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	309,306.50	16,549.20	3.4	
DPE-04	6/18/18 12:20	18.50	2.00	16.50	13.83	-2.67	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-04	7/5/18 12:00	18.50	12.68	5.82	13.83	8.01	2 / 0.5	No	330,621.90	21,315.40	0.0	Off
DPE-04	7/11/18 12:30	18.50	2.00	16.50	13.83	-2.67	2 / 0.5	Yes	330,855.30	233.40	4.4	
DPE-04	7/19/18 14:30	18.50	6.21	12.29	13.83	1.54	2 / 0.5	Yes	334,010.40	3,155.10	4.2	
DPE-04	7/26/18 15:00	18.50	7.94	10.56	13.83	3.27	2 / 0.5	Yes	358,518.30	24,507.90	4.4	
DPE-04	8/3/18 15:10	18.50	11.01	7.49	13.83	6.34	2 / 0.5	No	376,685.60	18,167.30	0.0	Off
DPE-04	8/7/18 12:45	18.50	12.30	6.20	13.83	7.63	2 / 0.5	No	376,685.60	0.00	0.0	Off
DPE-04	8/15/18 14:00	18.50	12.45	6.05	13.83	7.78	2 / 0.5	No	376,685.60	0.00	0.0	Off
DPE-04	10/10/18 17:05	20.50	11.90	8.60	13.83	5.23	2 / 0.5	No	376,685.60	0.00	--	Pump Faulted - Recalibrated transducer depth after fall restart
DPE-04	10/18/18 14:15	20.50	10.59	9.91	13.83	3.92	2 / 0.5	No	376,685.60	0.00	--	Pump Faulted
DPE-04	10/26/18 16:10	20.50	--	#N/A	13.83	#N/A	2 / 0.5	No	376,685.60	0.00	--	Pump Faulted
DPE-04	11/7/18 16:10	20.50	--	#N/A	13.83	#N/A	--	--	--	#N/A	--	Pump Faulted
DPE-04	11/13/18 13:20	20.50	--	#N/A	13.83	#N/A	--	--	--	#N/A	--	Pump Faulted
DPE-04	11/21/18 14:10	20.50	--	#N/A	13.83	#N/A	--	--	--	#N/A	--	Pump Faulted
DPE-04	1/11/19 10:30	20.50	--	#N/A	14.83	#N/A	--	--	--	#N/A	--	Pump Faulted
DPE-04	1/17/19 14:15	20.50	13.56	6.94	13.83	6.89	2 / 0.5	No	376,732.20	#N/A	0.0	Off
DPE-04	1/24/19 13:15	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	377,072.50	340.30	4.2	
DPE-04	1/29/19 12:15	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	386,597.80	9,525.30	3.6	
DPE-04	2/21/19 13:45	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	405,252.20	18,654.40	3.4	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-04	2/26/19 16:00	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	426,823.00	21,570.80	3.6	
DPE-04	3/6/19 13:00	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	453,310.20	26,487.20	3.6	
DPE-04	3/14/19 12:10	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	482,375.50	29,065.30	3.4	
DPE-04	3/22/19 14:30	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	482,375.50	0.00	3.4	
DPE-04	3/29/19 13:00	20.50	2.00	18.50	13.83	-4.67	2 / 0.5	No	512,589.80	30,214.30	3.4	
DPE-04	4/2/19 14:15	20.50	5.01	15.49	13.83	-1.66	2 / 0.5	No	525,330.80	12,741.00	3.6	
DPE-04	4/11/19 14:10	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	536,425.30	11,094.50	2.2	
DPE-04	4/17/19 13:10	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	548,199.80	11,774.50	2.2	
DPE-04	4/25/19 15:15	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	556,625.10	8,425.30	2.2	
DPE-04	5/2/19 13:30	20.50	5.99	14.51	13.83	-0.68	6 / 0.5	No	570,383.90	13,758.80	2.4	
DPE-04	5/9/19 15:10	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	592,750.90	22,367.00	2.2	
DPE-04	5/17/19 15:15	20.50	5.99	14.51	13.83	-0.68	6 / 0.5	No	615,376.20	22,625.30	2.2	
DPE-04	5/23/19 13:10	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	631,286.30	15,910.10	2.4	
DPE-04	5/30/19 14:35	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	651,941.5	20,655.20	2.4	
DPE-04	6/6/19 16:10	20.50	6.00	14.50	13.83	-0.67	6 / 0.5	No	675,559.10	23,617.60	2.4	
DPE-04	8/2/19 15:00	20.50	12.94	7.56	13.83	6.27	10 / 8	No	686,906.0	11,346.9	0.00	DPE system expansion baseline event before system startup - System off
DPE-04	8/15/19 14:17	20.50	11.34	9.16	13.83	4.67	10 / 8	No	687,076.6	170.6	0.0	Faulted
DPE-04	8/21/19 12:05	20.50	10.80	9.70	13.83	4.13	10 / 8	No	687,076.6	0.0	0.0	Faulted
DPE-04	9/5/19 13:38	20.50	11.10	9.40	13.83	4.43	10 / 8	No	687,076.6	0.0	0.0	Faulted
DPE-04	9/9/19 11:56	20.50	11.52	8.98	13.83	4.85	10 / 8	No	687,076.6	0.0	0.0	Faulted
DPE-04	9/23/19 15:32	20.50	10.72	9.78	13.83	4.05	10 / 8	No	687,076.6	0.0	0.0	Faulted
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	687,977.7	901.10	0.0	Off
DPE-04	3/4/20 13:49	20.50	10.10	10.40	13.83	3.43	10 / 8	No	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,977.7	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	687,976.60	-1.10	0.0	Off
DPE-04	5/26/20 12:30	20.50	12.44	8.06	13.83	5.77	10 / 8	No	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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	687,976.60	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-04												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4004)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-04	7/16/21 10:24	20.50	12.59	7.91	13.83	5.92	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	7/21/21 10:45	20.50	12.90	7.60	13.83	6.23	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	7/30/21 10:45	20.50	12.92	7.58	13.83	6.25	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	8/5/21 11:34	20.50	10.35	10.15	13.83	3.68	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	8/11/21 12:30	20.50	10.64	9.86	13.83	3.97	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	8/17/21 11:00	20.50	10.68	9.82	13.83	4.01	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	8/27/21 9:54	20.50	11.54	8.96	13.83	4.87	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	9/1/21 11:14	20.50	10.69	9.81	13.83	4.02	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	9/7/21 11:26	20.50	11.19	9.31	13.83	4.52	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	9/15/21 12:17	20.50	10.72	9.78	13.83	4.05	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	9/24/21 11:35	20.50	11.40	9.10	13.83	4.73	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	9/30/21 13:21	20.50	10.99	9.51	13.83	4.32	10 / 8	No	687,976.60	0.00	0.0	Off
DPE-04	10/6/21 11:56	20.50	11.04	9.46	13.83	4.37	10 / 8	No	687,976.60	0.00	0.0	Off, Faulted
DPE-04	10/18/21 12:48	20.50	#N/A	#N/A	13.83	#N/A	10 / 8	No	687,976.60	0.00	0.0	Off, Faulted
DPE-04	10/25/21 13:30	20.50	#N/A	#N/A	13.83	#N/A	10 / 8	No	687,976.60	0.00	0.0	Off, Faulted
DPE-04	11/12/21 10:54	20.50	#N/A	#N/A	13.83	#N/A	0 / 0	No	687,976.60	0.00	0.0	Off, Faulted
DPE-04	11/19/21 12:04	20.50	11.93	8.57	13.83	5.26	0 / 0	No	696,900.00	8,923.40	0.0	Off, Installed new pump
DPE-04	11/24/21 10:50	20.50	12.07	8.43	13.83	5.40	0 / 0	No	696,900.00	0.00	0.0	Off
DPE-04	11/29/21 13:20	20.50	12.59	7.91	13.83	5.92	0 / 0	No	696,900.00	0.00	0.0	Off
DPE-04	12/16/21 10:50	20.50	12.05	8.45	13.83	5.38	0 / 0	No	696,900.00	0.00	0.0	Off
DPE-04	12/20/21 12:50	20.50	12.63	7.87	13.83	5.96	0 / 0	No	696,900.00	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-05	11/28/17 8:54	#N/A	#N/A	8.70	15.33	6.63	#N/A	#N/A	75.4	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-05	12/5/17 11:35	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	No	29,050	28,974.60	#N/A	Groundwater elevation estimated based on transducer setting
DPE-05	12/13/17 9:30	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	56,713.90	27,663.90	4.6	
DPE-05	12/13/17 14:00	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	58,055.30	1,341.40	2.8	
DPE-05	12/14/17 10:25	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	63,645.40	5,590.10	2.6	
DPE-05	12/20/17 12:50	20.50	2.75	17.75	15.33	-2.42	2 / 0.5	Yes	85,058.60	21,413.20	5.4	
DPE-05	12/27/17 12:15	20.50	2.49	18.01	15.33	-2.68	2 / 0.5	Yes	114,374.50	29,315.90	5.6	
DPE-05	1/5/18 16:20	20.50	3.45	17.05	15.33	-1.72	2 / 0.5	Yes	142,837.10	28,462.60	5.2	
DPE-05	1/9/18 16:25	20.50	4.30	16.20	15.33	-0.87	4 / 0.5	Yes	145,988.90	3,151.80	5.4	
DPE-05	1/18/18 14:20	20.50	4.00	16.50	15.33	-1.17	4 / 0.5	Yes	168,499.80	22,510.90	5.4	
DPE-05	1/24/18 13:30	20.50	7.62	12.88	15.33	2.45	2 / 0.5	Yes	195,075.90	26,576.10	5.6	
DPE-05	2/1/18 10:10	20.50	2.50	18.00	15.33	-2.67	2 / 0.5	Yes	241,155.90	46,080.00	5.6	
DPE-05	2/8/18 10:00	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	267,478.50	26,322.60	5.6	
DPE-05	2/13/18 9:50	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	No	299,791.20	32,312.70	4.4	
DPE-05	2/20/18 14:00	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	330,269.80	30,478.60	5.8	
DPE-05	2/28/18 14:00	20.50	2.00	18.50	15.33	-3.17	2 / 0.5	Yes	368,217.10	37,947.30	5.6	
DPE-05	3/8/18 11:30	20.50	8.44	12.06	15.33	3.27	2 / 0.5	Yes	402,569.20	34,352.10	5.6	
DPE-05	3/14/18 12:00	20.50	2.86	17.64	15.33	-2.31	2 / 0.5	Yes	438,196.00	35,626.80	5.6	
DPE-05	5/8/18 13:00	20.50	2.75	17.75	15.33	-2.42	2 / 0.5	Yes	442,345.20	4,149.20	3.4	
DPE-05	5/17/18 15:45	20.50	12.65	7.85	15.33	7.48	2 / 0.5	No	450,773.60	8,428.40	0.0	Off
DPE-05	5/23/18 15:30	20.50	13.21	7.29	15.33	8.04	2 / 0.5	No	450,773.60	0.00	0.0	Off
DPE-05	5/29/18 16:30	20.50	11.86	8.64	15.33	6.69	2 / 0.5	Yes	451,128.30	354.70	0.0	Off
DPE-05	6/7/18 13:15	20.50	6.62	13.88	15.33	1.45	2 / 0.5	Yes	451,128.70	0.40	5.8	
DPE-05	6/15/18 13:00	20.50	3.79	16.71	15.33	-1.38	2 / 0.5	Yes	479,007.70	27,879.00	5.4	
DPE-05	6/18/18 12:20	20.50	2.02	18.48	15.33	-3.15	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-05	7/5/18 12:00	20.50	13.03	7.47	15.33	7.86	2 / 0.5	No	517,157.90	38,150.20	0.0	Off
DPE-05	7/11/18 12:30	20.50	12.15	8.35	15.33	6.98	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	7/19/18 14:30	20.50	12.00	8.50	15.33	6.83	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	7/26/18 15:00	20.50	12.34	8.16	15.33	7.17	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	8/3/18 15:10	20.50	12.55	7.95	15.33	7.38	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	8/7/18 12:45	20.50	12.80	7.70	15.33	7.63	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	8/15/18 14:00	20.50	13.04	7.46	15.33	7.87	2 / 0.5	No	517,157.90	0.00	0.0	Off
DPE-05	10/10/18 17:05	23.00	10.66	12.34	15.33	2.99	2 / 0.5	No	517,466.90	309.00	5.8	Recalibrated transducer depth after fall restart
DPE-05	10/18/18 14:15	23.00	4.21	18.79	15.33	-3.46	2 / 0.5	Yes	522,285.50	4,818.60	5.4	
DPE-05	10/26/18 16:10	23.00	4.66	18.34	15.33	-3.01	2 / 0.5	Yes	528,205.00	5,919.50	5.4	
DPE-05	11/7/18 16:10	23.00	4.51	18.49	15.33	-3.16	2 / 0.5	Yes	529,369.10	1,164.10	5.2	
DPE-05	11/13/18 13:20	23.00	3.52	19.48	15.33	-4.15	2 / 0.5	Yes	561,090.90	31,721.80	3.2	
DPE-05	11/21/18 14:10	23.00	4.21	18.79	15.33	-3.46	2 / 0.5	Yes	591,292.60	30,201.70	5.0	
DPE-05	1/11/19 10:30	23.00	14.22	8.78	15.33	6.55	2 / 0.5	No	608,527.90	17,235.30	0.0	Off
DPE-05	1/17/19 14:15	23.00	14.18	8.82	15.33	6.51	2 / 0.5	No	608,527.90	0.00	0.0	Off
DPE-05	1/24/19 13:15	23.00	6.34	16.66	15.33	-1.33	2 / 0.5	No	608,901.80	373.90	5.6	
DPE-05	1/29/19 12:15	23.00	4.00	19.00	15.33	-3.67	2 / 0.5	No	608,901.80	0.00	0.0	Off
DPE-05	2/21/19 13:45	23.00	3.23	19.77	15.33	-4.44	2 / 0.5	No	652,740.50	43,838.70	5.4	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-05	2/26/19 16:00	23.00	4.46	18.54	15.33	-3.21	2 / 0.5	No	690,293.20	37,552.70	5.6	
DPE-05	3/6/19 13:00	23.00	2.23	20.77	15.33	-5.44	2 / 0.5	No	740,408.00	50,114.80	5.6	
DPE-05	3/14/19 12:10	23.00	2.00	21.00	15.33	-5.67	2 / 0.5	No	798,071.60	57,663.60	5.6	
DPE-05	3/22/19 14:30	23.00	5.04	17.96	15.33	-2.63	2 / 0.5	No	798,071.60	0.00	5.6	
DPE-05	3/29/19 13:00	23.00	3.47	19.53	15.33	-4.20	2 / 0.5	No	862,952.20	64,880.60	7.0	
DPE-05	4/2/19 14:15	23.00	3.39	19.61	15.33	-4.28	2 / 0.5	No	892,313.50	29,361.30	6.8	
DPE-05	4/11/19 14:10	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	927,567.60	35,254.10	6.4	
DPE-05	4/17/19 13:10	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	960,559.50	32,991.90	6.6	
DPE-05	4/25/19 15:15	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	984,952.50	24,393.00	6.4	
DPE-05	5/2/19 13:30	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	1,018,279.10	33,326.60	6.0	
DPE-05	5/9/19 15:10	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	1,068,787.00	50,507.90	6.4	
DPE-05	5/17/19 15:15	23.00	6.95	16.05	15.33	-0.72	6 / 0.5	No	1,089,279.40	20,492.40	6.0	
DPE-05	5/23/19 13:10	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	1,141,894.50	52,615.10	4.8	
DPE-05	5/30/19 14:35	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	1,176,826.2	34,931.70	5.8	
DPE-05	6/6/19 16:10	23.00	6.00	17.00	15.33	-1.67	6 / 0.5	No	1,215,451.0	38,624.80	5.6	
DPE-05	8/2/19 15:00	23.00	13.17	9.83	15.33	5.50	6 / 0.5	No	1,233,441.7	17,990.7	0.00	DPE system expansion baseline event before system startup - System off
DPE-05	8/15/19 14:17	23.00	12.98	10.02	15.33	5.31	6 / 0.5	No	1,233,441.7	0.0	0.0	Off
DPE-05	8/21/19 12:05	23.00	12.85	10.15	15.33	5.18	6 / 0.5	No	1,233,441.7	0.0	0.0	Off
DPE-05	9/5/19 13:40	23.00	6.77	16.23	15.33	-0.90	6 / 0.5	Yes	1,233,641.9	200.2	5.6	
DPE-05	9/9/19 11:56	23.00	6.38	16.62	15.33	-1.29	6 / 0.5	No	1,234,520.4	878.5	5.2	
DPE-05	9/23/19 15:32	23.00	6.03	16.97	15.33	-1.64	6 / 0.5	Yes	1,249,986.3	15,465.9	4.4	
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	25,566.20	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	37,880.40	4.4	On

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-05	7/16/21 10:26	23.00	13.13	9.87	15.33	5.46	6 / 0.5	No	1,902,865.20	26,971.40	0.0	Off
DPE-05	7/21/21 13:45	23.00	13.21	9.79	15.33	5.54	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	7/30/21 10:45	23.00	13.19	9.81	15.33	5.52	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	8/5/21 11:36	23.00	12.45	10.55	15.33	4.78	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	8/11/21 12:30	23.00	12.57	10.43	15.33	4.90	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	8/17/21 11:00	23.00	12.68	10.32	15.33	5.01	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	8/27/21 9:54	23.00	13.24	9.76	15.33	5.57	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	9/1/21 11:14	23.00	12.50	10.50	15.33	4.83	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	9/7/21 11:26	23.00	12.83	10.17	15.33	5.16	6 / 0.5	No	1,902,865.20	0.00	0.0	Off
DPE-05	9/15/21 12:17	23.00	5.91	17.09	15.33	-1.76	6 / 0.5	Yes	1,912,746.00	9,880.80	4.8	On
DPE-05	9/24/21 11:35	23.00	6.30	16.70	15.33	-1.37	6 / 0.5	Yes	1,941,960.90	29,214.90	5.0	On
DPE-05	9/30/21 13:22	23.00	5.85	17.15	15.33	-1.82	6 / 0.5	Yes	1,961,226.44	19,265.54	5.4	On
DPE-05	10/6/21 12:02	23.00	6.13	16.87	15.33	-1.54	6 / 0.5	Yes	1,974,957.90	13,731.46	5.1	On
DPE-05	10/18/21 13:06	23.00	5.94	17.06	15.33	-1.73	6 / 0.5	Yes	2,019,401.00	44,443.10	5.2	On
DPE-05	10/25/21 13:32	23.00	7.88	15.12	15.33	0.21	6 / 0.5	Yes	2,044,208.50	24,807.50	5.3	On
DPE-05	11/12/21 10:56	23.00	7.33	15.67	15.33	-0.34	6 / 0.5	No	2,056,399.70	12,191.20	0.0	Off
DPE-05	11/19/21 12:06	23.00	7.64	15.36	15.33	-0.03	6 / 0.5	No	2,056,399.70	0.00	0.0	Off
DPE-05	11/24/21 10:52	23.00	13.75	9.25	15.33	6.08	6 / 0.5	No	2,056,687.30	287.60	0.0	Off
DPE-05	11/29/21 13:22	23.00	13.96	9.04	15.33	6.29	6 / 0.5	No	2,056,687.30	0.00	0.0	Off
DPE-05	12/16/21 10:50	23.00	14.03	8.97	15.33	6.36	6 / 0.5	No	2,057,411.00	723.70	0.0	Off
DPE-05	12/20/21 12:50	23.00	11.47	11.53	15.33	3.80	6 / 0.5	Yes	2,064,915.90	7,504.90	5.4	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-06	11/28/17 8:52	#N/A	#N/A	8.34	15.34	7.00	#N/A	#N/A	78.36	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-06	12/5/17 11:35	20.50	2.00	18.50	15.34	-3.16	2 / 0.5	No	408.85	330.49	#N/A	Groundwater elevation estimated based on transducer setting
DPE-06	12/13/17 9:30	20.50	0.80	19.70	15.34	-4.36	2 / 0.5	Yes	762.60	353.75	0.0	Low yield
DPE-06	12/13/17 14:00	20.50	1.00	19.50	15.34	-4.16	2 / 0.5	Yes	894.90	132.30	0.0	Low yield
DPE-06	12/14/17 10:25	20.50	0.70	19.80	15.34	-4.46	2 / 0.5	Yes	982.90	88.00	0.0	Low yield
DPE-06	12/20/17 12:50	20.50	0.85	19.65	15.34	-4.31	2 / 0.5	Yes	1,200.10	217.20	0.0	Low yield
DPE-06	12/27/17 12:15	20.50	0.94	19.56	15.34	-4.22	2 / 0.5	Yes	1,696.30	496.20	0.0	Low yield
DPE-06	1/5/18 16:20	20.50	0.80	19.70	15.34	-4.36	2 / 0.5	Yes	2,090.10	393.80	0.0	Low yield
DPE-06	1/9/18 16:25	20.50	1.00	19.50	15.34	-4.16	4 / 0.5	Yes	2,179.90	89.80	0.0	Low yield
DPE-06	1/18/18 14:20	20.50	0.94	19.56	15.34	-4.22	4 / 0.5	Yes	2,580.10	400.20	0.0	Low yield
DPE-06	1/24/18 13:30	20.50	0.00	20.50	15.34	-5.16	2 / 0.5	Yes	2,612.20	32.10	0.0	Low yield
DPE-06	2/1/18 10:10	20.50	1.23	19.27	15.34	-3.93	2 / 0.5	Yes	3,360.90	748.70	0.0	Low yield
DPE-06	2/8/18 10:00	20.50	9.20	11.30	15.34	4.04	2 / 0.5	Yes	3,649.40	288.50	0.0	Low yield
DPE-06	2/13/18 9:50	20.50	1.35	19.15	15.34	-3.81	2 / 0.5	No	4,110.10	460.70	0.0	Low yield
DPE-06	2/20/18 14:00	20.50	0.74	19.76	15.34	-4.42	2 / 0.5	Yes	4,510.00	399.90	0.0	Low yield
DPE-06	2/28/18 14:00	20.50	0.00	20.50	15.34	-5.16	2 / 0.5	Yes	5,156.50	646.50	0.0	Low yield
DPE-06	3/8/18 11:30	20.50	0.00	20.50	15.34	-5.16	2 / 0.5	Yes	5,747.10	590.60	0.0	Low yield
DPE-06	3/14/18 12:00	20.50	0.00	20.50	15.34	-5.16	2 / 0.5	Yes	6,439.50	692.40	0.0	Low yield
DPE-06	5/8/18 13:00	20.50	0.50	20.00	15.34	-4.66	2 / 0.5	Yes	6,559.00	119.50	0.0	Low yield
DPE-06	5/17/18 15:45	20.50	6.74	13.76	15.34	1.58	2 / 0.5	No	7,502.10	943.10	0.0	Off
DPE-06	5/23/18 15:30	20.50	10.88	9.62	15.34	5.72	2 / 0.5	No	7,502.10	0.00	0.0	Off
DPE-06	5/29/18 16:30	20.50	0.53	19.97	15.34	-4.63	2 / 0.5	Yes	7,605.50	103.40	0.0	
DPE-06	6/7/18 13:15	20.50	0.46	20.04	15.34	-4.70	2 / 0.5	Yes	8,129.30	523.80	0.0	
DPE-06	6/15/18 13:00	20.50	0.84	19.66	15.34	-4.32	2 / 0.5	Yes	8,562.00	432.70	0.0	
DPE-06	6/18/18 12:20	20.50	1.00	19.50	15.34	-4.16	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-06	7/5/18 12:00	20.50	10.69	9.81	15.34	5.53	2 / 0.5	No	9,005.80	443.80	0.0	Off
DPE-06	7/11/18 12:30	20.50	4.71	15.79	15.34	-0.45	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	7/19/18 14:30	20.50	10.00	10.50	15.34	4.84	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	7/26/18 15:00	20.50	10.14	10.36	15.34	4.98	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	8/3/18 15:10	20.50	10.26	10.24	15.34	5.10	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	8/7/18 12:45	20.50	10.29	10.21	15.34	5.13	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	8/15/18 14:00	20.50	10.53	9.97	15.34	5.37	2 / 0.5	No	9,005.80	0.00	0.0	Off
DPE-06	10/10/18 17:05	20.50	0.36	20.14	15.34	-4.80	2 / 0.5	No	9,150.60	144.80	0.0	Recalibrated transducer depth after fall restart
DPE-06	10/18/18 14:15	20.50	1.02	19.48	15.34	-4.14	2 / 0.5	Yes	9,240.80	90.20	0.0	
DPE-06	10/26/18 16:10	20.50	0.76	19.74	15.34	-4.40	2 / 0.5	Yes	9,262.60	21.80	0.0	
DPE-06	11/7/18 16:10	20.50	0.04	20.46	15.34	-5.12	2 / 0.5	Yes	9,381.50	118.90	0.0	
DPE-06	11/13/18 13:20	20.50	0.88	19.62	15.34	-4.28	2 / 0.5	Yes	9,917.20	535.70	0.0	
DPE-06	11/21/18 14:10	20.50	1.29	19.21	15.34	-3.87	2 / 0.5	Yes	10,246.10	328.90	0.0	
DPE-06	1/11/19 10:30	20.50	14.01	6.49	15.34	8.85	2 / 0.5	No	10,504.70	258.60	0.0	Off
DPE-06	1/17/19 14:15	20.50	11.97	8.53	15.34	6.81	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	1/24/19 13:15	20.50	13.67	6.83	15.34	8.51	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	1/29/19 12:15	20.50	11.11	9.39	15.34	5.95	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	2/21/19 13:45	20.50	10.50	10.00	15.34	5.34	2 / 0.5	No	10,504.70	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-06												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4006)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-06	2/26/19 16:00	20.50	10.01	10.49	15.34	4.85	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	3/6/19 13:00	20.50	10.97	9.53	15.34	5.81	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	3/14/19 12:10	20.50	11.12	9.38	15.34	5.96	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	3/22/19 14:30	20.50	11.22	9.28	15.34	6.06	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	3/29/19 13:00	20.50	9.40	11.10	15.34	4.24	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	4/2/19 14:15	20.50	10.52	9.98	15.34	5.36	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	4/11/19 14:10	20.50	11.68	8.82	15.34	6.52	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	4/17/19 13:10	20.50	11.24	9.26	15.34	6.08	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	4/25/19 15:15	20.50	11.03	9.47	15.34	5.87	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	5/2/19 13:30	20.50	10.52	9.98	15.34	5.36	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	5/9/19 15:10	20.50	9.41	11.09	15.34	4.25	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	5/17/19 15:15	20.50	14.26	6.24	15.34	9.10	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	5/23/19 13:10	20.50	10.84	9.66	15.34	5.68	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	5/30/19 14:35	20.50	9.57	10.93	15.34	4.41	2 / 0.5	No	10,504.7	0.00	0.0	Off
DPE-06	6/6/19 16:10	20.50	9.31	11.19	15.34	4.15	2 / 0.5	No	10,504.70	0.00	0.0	Off
DPE-06	8/2/19 15:00	20.50	10.72	9.78	15.34	5.56	2 / 0.5	No	10,504.7	0.0	0.00	DPE system expansion baseline event before system startup - System off
DPE-06	8/15/19 14:18	20.50	10.47	10.03	15.34	5.31	2 / 0.5	No	10,504.7	0.0	0.0	Off
DPE-06	8/21/19 12:05	20.50	10.21	10.29	15.34	5.05	2 / 0.5	No	10,504.7	0.0	0.0	Off
DPE-06	9/5/19 13:40	20.50	1.82	18.68	15.34	-3.34	2 / 0.5	Yes	10,511.0	6.3	0.0	Interlock
DPE-06	9/9/19 11:56	20.50	1.19	19.31	15.34	-3.97	2 / 0.5	No	10,539.1	28.1	0.0	Interlock
DPE-06	9/23/19 15:32	20.50	0.63	19.87	15.34	-4.53	2 / 0.5	Yes	10,773.4	234.3	0.0	Interlock
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	Off
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-06												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4006)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-06	7/16/21 10:28	20.50	10.89	9.61	15.34	5.73	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	7/21/21 13:45	20.50	10.95	9.55	15.34	5.79	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	7/30/21 10:45	20.50	10.92	9.58	15.34	5.76	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	8/5/21 11:38	20.50	10.47	10.03	15.34	5.31	2 / 0.5	No	11,099.30	0.00	0.0	Off
DPE-06	8/11/21 12:30	20.50	10.48	10.02	15.34	5.32	2 / 0.5	No	11,109.30	10.00	0.0	Off
DPE-06	8/17/21 10:55	20.50	10.66	9.84	15.34	5.50	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	8/27/21 9:54	20.50	10.97	9.53	15.34	5.81	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	9/1/21 11:20	20.50	10.38	10.12	15.34	5.22	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	9/7/21 11:32	20.50	10.77	9.73	15.34	5.61	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	9/15/21 12:22	20.50	10.1	10.40	15.34	4.94	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	9/24/21 11:37	20.50	10.77	9.73	15.34	5.61	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	9/30/21 13:23	20.50	14.19	6.31	15.34	9.03	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	10/6/21 12:04	20.50	10.88	9.62	15.34	5.72	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	10/18/21 12:47	20.50	10.15	10.35	15.34	4.99	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	10/25/21 13:34	20.50	12.61	7.89	15.34	7.45	2 / 0.5	No	11,109.30	0.00	0.0	Off
DPE-06	11/12/21 10:58	20.50	14.41	6.09	15.34	9.25	2 / 0.5	No	11,101.80	-7.50	0.0	Off - Pump maintenance test
DPE-06	11/19/21 12:08	20.50	14.57	5.93	15.34	9.41	2 / 0.5	No	11,102.20	0.40	0.0	Off
DPE-06	11/24/21 10:54	20.50	14.36	6.14	15.34	9.20	2 / 0.5	No	11,102.20	0.00	0.0	Off
DPE-06	11/29/21 13:24	20.50	14.31	6.19	15.34	9.15	2 / 0.5	No	11,102.20	0.00	0.0	Off
DPE-06	12/16/21 10:50	20.50	14.63	5.87	15.34	9.47	2 / 0.5	No	11,102.20	0.00	0.0	Off
DPE-06	12/20/21 12:50	20.50	14.7	5.80	15.34	9.54	2 / 0.5	No	11,102.20	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-07	11/28/17 9:29	#N/A	#N/A	6.43	13.68	7.25	#N/A	#N/A	100.3	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-07	12/5/17 11:35	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	No	2,993	2,892.70	#N/A	Groundwater elevation estimated based on transducer setting
DPE-07	12/13/17 9:30	20.50	1.25	19.25	13.68	-5.57	2 / 0.5	Yes	5,998.80	3,005.80	0.0	Low yield
DPE-07	12/13/17 14:00	20.50	1.00	19.50	13.68	-5.82	2 / 0.5	Yes	6,273.70	274.90	0.8	Low yield
DPE-07	12/14/17 10:25	20.50	3.00	17.50	13.68	-3.82	2 / 0.5	Yes	7,090.40	816.70	0.0	Low yield
DPE-07	12/20/17 12:50	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	10,908.20	3,817.80	1.4	
DPE-07	12/27/17 12:15	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	17,689.50	6,781.30	1.8	
DPE-07	1/5/18 16:20	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	25,494.70	7,805.20	1.6	
DPE-07	1/9/18 16:25	20.50	4.00	16.50	13.68	-2.82	4 / 0.5	Yes	26,513.10	1,018.40	1.6	
DPE-07	1/18/18 14:20	20.50	4.00	16.50	13.68	-2.82	4 / 0.5	Yes	33,531.90	7,018.80	1.6	
DPE-07	1/24/18 13:30	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	42,292.30	8,760.40	1.8	
DPE-07	2/1/18 10:10	20.50	1.20	19.30	13.68	-5.62	2 / 0.5	Yes	55,889.50	13,597.20	2.0	
DPE-07	2/8/18 10:00	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	64,190.20	8,300.70	2.0	
DPE-07	2/13/18 9:50	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	No	76,498.10	12,307.90	1.8	
DPE-07	2/20/18 14:00	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	89,139.90	12,641.80	2.2	
DPE-07	2/28/18 14:00	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	103,978.40	14,838.50	2.0	
DPE-07	3/8/18 11:30	20.50	7.42	13.08	13.68	0.60	2 / 0.5	No	111,905.90	7,927.50	0.0	Off
DPE-07	3/14/18 12:00	20.50	6.03	14.47	13.68	-0.79	2 / 0.5	No	111,905.90	0.00	0.0	Off
DPE-07	5/8/18 13:00	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	112,217.50	311.60	2.2	
DPE-07	5/17/18 15:45	20.50	13.25	7.25	13.68	6.43	2 / 0.5	No	134,321.30	22,103.80	0.0	Off
DPE-07	5/23/18 15:30	20.50	14.63	5.87	13.68	7.81	2 / 0.5	No	134,321.30	0.00	0.0	Off
DPE-07	5/29/18 16:30	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	134,483.70	162.40	2.0	
DPE-07	6/7/18 13:15	20.50	2.13	18.37	13.68	-4.69	2 / 0.5	Yes	145,336.00	10,852.30	2.2	
DPE-07	6/15/18 13:00	20.50	2.00	18.50	13.68	-4.82	2 / 0.5	Yes	157,289.50	11,953.50	2.4	
DPE-07	6/18/18 12:20	20.50	2.00	18.50	13.68	-4.82	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-07	7/5/18 12:00	20.50	14.53	5.97	13.68	7.71	2 / 0.5	No	173,670.60	16,381.10	0.0	Off
DPE-07	7/11/18 12:30	20.50	12.51	7.99	13.68	5.69	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	7/19/18 14:30	20.50	12.97	7.53	13.68	6.15	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	7/26/18 15:00	20.50	12.30	8.20	13.68	5.48	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	8/3/18 15:10	20.50	13.22	7.28	13.68	6.40	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	8/7/18 12:45	20.50	13.81	6.69	13.68	6.99	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	8/15/18 14:00	20.50	14.27	6.23	13.68	7.45	2 / 0.5	No	173,670.60	0.00	0.0	Off
DPE-07	10/10/18 17:05	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	No	174,036.00	365.40	2.6	Recalibrated transducer depth after fall restart
DPE-07	10/18/18 14:15	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	176,227.10	2,191.10	3.2	
DPE-07	10/26/18 16:10	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	179,061.20	2,834.10	3.0	
DPE-07	11/7/18 16:10	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	179,648.10	586.90	2.8	
DPE-07	11/13/18 13:20	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	193,753.20	14,105.10	2.4	
DPE-07	11/21/18 14:10	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	206,006.50	12,253.30	3.0	
DPE-07	1/11/19 10:30	22.50	16.20	6.30	13.68	7.38	2 / 0.5	No	213,404.20	7,397.70	0.0	Off
DPE-07	1/17/19 14:15	22.50	16.18	6.32	13.68	7.36	2 / 0.5	No	213,404.20	0.00	0.0	Off
DPE-07	1/24/19 13:15	22.50	2.14	20.36	13.68	-6.68	2 / 0.5	No	213,730.30	326.10	2.4	
DPE-07	1/29/19 12:15	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	No	219,952.70	6,222.40	2.6	
DPE-07	2/21/19 13:45	22.50	13.60	8.90	13.68	4.78	2 / 0.5	No	226,081.10	6,128.40	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-07	2/26/19 16:00	22.50	13.75	8.75	13.68	4.93	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	3/6/19 13:00	22.50	13.88	8.62	13.68	5.06	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	3/14/19 12:10	22.50	14.97	7.53	13.68	6.15	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	3/22/19 14:30	22.50	13.80	8.70	13.68	4.98	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	3/29/19 13:00	22.50	14.40	8.10	13.68	5.58	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	4/2/19 14:15	22.50	13.76	8.74	13.68	4.94	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	4/11/19 14:10	22.50	14.74	7.76	13.68	5.92	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	4/17/19 13:10	22.50	12.99	9.51	13.68	4.17	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	4/25/19 15:15	22.50	13.47	9.03	13.68	4.65	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	5/2/19 13:30	22.50	13.03	9.47	13.68	4.21	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	5/9/19 15:10	22.50	13.84	8.66	13.68	5.02	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	5/17/19 15:15	22.50	13.72	8.78	13.68	4.90	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	5/23/19 13:10	22.50	13.86	8.64	13.68	5.04	2 / 0.5	No	226,081.10	0.00	0.0	Off
DPE-07	5/30/19 14:35	22.50	13.10	9.40	13.68	4.28	2 / 0.5	No	226,081.1	0.00	0.0	Off
DPE-07	6/6/19 16:10	22.50	13.15	9.35	13.68	4.33	2 / 0.5	No	226,081.1	0.00	0.0	Off
DPE-07	8/2/19 15:00	22.50	13.80	8.70	13.68	4.98	2 / 0.5	No	226,208.0	126.9	0.00	DPE system expansion baseline event before system startup - System off
DPE-07	8/15/19 14:18	22.50	2.01	20.49	13.68	-6.81	2 / 0.5	No	226,343.6	135.6	2.2	
DPE-07	8/21/19 12:06	22.50	2.02	20.48	13.68	-6.80	2 / 0.5	No	243,970.8	17,627.2	2.0	
DPE-07	9/5/19 13:40	22.50	1.98	20.52	13.68	-6.84	2 / 0.5	Yes	275,994.3	32,023.5	2.8	
DPE-07	9/9/19 11:57	22.50	1.93	20.57	13.68	-6.89	2 / 0.5	No	276,439.9	445.6	2.2	
DPE-07	9/23/19 15:35	22.50	1.97	20.53	13.68	-6.85	2 / 0.5	Yes	285,362.2	8,922.3	2.8	
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	31,785.60	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	46,589.30	5.0	On

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-07	7/16/21 10:30	22.50	15.04	7.46	13.68	6.22	2 / 0.5	No	939,806.00	32,939.80	0.0	Off
DPE-07	7/21/21 10:45	22.50	15.32	7.18	13.68	6.50	2 / 0.5	No	939,806.00	0.00	0.0	Off
DPE-07	7/30/21 10:45	22.50	15.10	7.40	13.68	6.28	2 / 0.5	No	939,806.00	0.00	0.0	Off
DPE-07	8/5/21 11:40	22.50	1.98	20.52	13.68	-6.84	2 / 0.5	No	963,276.10	23,470.10	6.0	Off
DPE-07	8/11/21 12:35	22.50	2.00	20.50	13.68	-6.82	2 / 0.5	Yes	1,009,421.70	46,145.60	6.0	On
DPE-07	8/17/21 12:48	22.50	1.83	20.67	13.68	-6.99	2 / 0.5	Yes	1,050,019.00	40,597.30	7.7	On
DPE-07	8/27/21 9:54	22.50	1.94	20.56	13.68	-6.88	2 / 0.5	Yes	1,051,563.00	1,544.00	6.8	On
DPE-07	9/1/21 11:22	22.50	1.99	20.51	13.68	-6.83	2 / 0.5	Yes	1,085,720.10	34,157.10	5.9	On
DPE-07	9/7/21 11:34	22.50	14.52	7.98	13.68	5.70	2 / 0.5	Yes	1,100,921.10	15,201.00	0.0	Faulted
DPE-07	9/15/21 12:24	22.50	14.52	7.98	13.68	5.70	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	9/24/21 11:38	22.50	14.85	7.65	13.68	6.03	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	9/30/21 13:24	22.50	14.74	7.76	13.68	5.92	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	10/6/21 12:06	22.50	14.52	7.98	13.68	5.70	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	10/18/21 12:43	22.50	14.71	7.79	13.68	5.89	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	10/25/21 13:36	22.50	15.47	7.03	13.68	6.65	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	11/12/21 11:00	22.50	15.63	6.87	13.68	6.81	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	11/19/21 12:10	22.50	15.68	6.82	13.68	6.86	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	11/24/21 10:56	22.50	15.78	6.72	13.68	6.96	2 / 0.5	No	1,100,921.10	0.00	0.0	Off
DPE-07	11/29/21 13:24	22.50	15.89	6.61	13.68	7.07	2 / 0.5	No	1,100,921.10	0.00	0.0	Faulted
DPE-07	12/16/21 10:52	22.50	15.83	6.67	13.68	7.01	2 / 0.5	No	1,100,921.10	0.00	0.0	Off
DPE-07	12/20/21 12:50	22.50	16.22	6.28	13.68	7.40	2 / 0.5	No	1,100,921.10	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-08												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4008)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-08	11/28/17 9:33	#N/A	#N/A	7.40	14.86	7.46	#N/A	#N/A	70.46	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-08	12/5/17 11:35	20.50	2.00	18.50	14.86	-3.64	2 / 0.5	No	33,192	33,121.54	#N/A	Groundwater elevation estimated based on transducer setting
DPE-08	12/13/17 9:30	20.50	7.15	13.35	14.86	1.51	2 / 0.5	No	65,746.00	32,554.00	5.4	
DPE-08	12/13/17 14:00	20.50	8.10	12.40	14.86	2.46	2 / 0.5	No	67,197.50	1,451.50	5.2	
DPE-08	12/14/17 10:25	20.50	6.55	13.95	14.86	0.91	2 / 0.5	No	73,420.00	6,222.50	5.2	
DPE-08	12/20/17 12:50	20.50	8.44	12.06	14.86	2.80	2 / 0.5	No	97,600.40	24,180.40	5.2	
DPE-08	12/27/17 12:15	20.50	8.86	11.64	14.86	3.22	2 / 0.5	No	127,947.40	30,347.00	5.4	
DPE-08	1/5/18 16:20	20.50	8.41	12.09	14.86	2.77	2 / 0.5	No	158,250.20	30,302.80	5.2	
DPE-08	1/9/18 16:25	20.50	8.30	12.20	14.86	2.66	4 / 0.5	No	161,726.30	3,476.10	5.2	
DPE-08	1/18/18 14:20	20.50	13.97	6.53	14.86	8.33	4 / 0.5	No	171,398.50	9,672.20	0.0	Off
DPE-08	1/24/18 13:30	20.50	8.93	11.57	14.86	3.29	2 / 0.5	No	175,178.90	3,780.40	5.4	
DPE-08	2/1/18 10:10	20.50	8.56	11.94	14.86	2.92	2 / 0.5	No	219,657.90	44,479.00	5.2	
DPE-08	2/8/18 10:00	20.50	14.00	6.50	14.86	8.36	2 / 0.5	No	231,354.60	11,696.70	0.0	Off
DPE-08	2/13/18 9:50	20.50	13.42	7.08	14.86	7.78	2 / 0.5	No	231,354.60	0.00	0.0	Off
DPE-08	2/20/18 14:00	20.50	12.49	8.01	14.86	6.85	2 / 0.5	No	231,354.60	0.00	0.0	Off
DPE-08	2/28/18 14:00	20.50	8.45	12.05	14.86	2.81	2 / 0.5	Yes	263,150.50	31,795.90	5.2	
DPE-08	3/8/18 11:30	20.50	12.50	8.00	14.86	6.86	2 / 0.5	No	284,910.20	21,759.70	0.0	Off
DPE-08	3/14/18 12:00	20.50	13.38	7.12	14.86	7.74	2 / 0.5	No	284,910.20	0.00	0.0	Off
DPE-08	5/8/18 13:00	20.50	10.00	10.50	14.86	4.36	2 / 0.5	Yes	286,585.50	1,675.30	5.6	
DPE-08	5/17/18 15:45	20.50	12.10	8.40	14.86	6.46	2 / 0.5	No	293,374.10	6,788.60	0.0	Off
DPE-08	5/23/18 15:30	20.50	13.74	6.76	14.86	8.10	2 / 0.5	No	293,374.10	0.00	0.0	Off
DPE-08	5/29/18 16:30	20.50	11.95	8.55	14.86	6.31	2 / 0.5	No	293,691.30	317.20	0.0	Off
DPE-08	6/7/18 13:15	20.50	13.13	7.37	14.86	7.49	2 / 0.5	No	293,691.30	0.00	0.0	Off
DPE-08	6/15/18 13:00	20.50	13.10	7.40	14.86	7.46	2 / 0.5	No	293,691.30	0.00	0.0	Off
DPE-08	6/18/18 12:20	20.50	13.23	7.28	14.86	7.59	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-08	7/5/18 12:00	20.50	13.55	6.95	14.86	7.91	2 / 0.5	No	293,691.40	0.10	0.0	Off
DPE-08	7/11/18 12:30	20.50	12.22	8.28	14.86	6.58	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	7/19/18 14:30	20.50	12.97	7.53	14.86	7.33	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	7/26/18 15:00	20.50	11.81	8.69	14.86	6.17	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	8/3/18 15:10	20.50	12.41	8.09	14.86	6.77	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	8/7/18 12:45	20.50	12.52	7.98	14.86	6.88	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	8/15/18 14:00	20.50	13.14	7.36	14.86	7.50	2 / 0.5	No	293,691.40	0.00	0.0	Off
DPE-08	10/10/18 17:05	22.50	11.00	11.50	14.86	3.36	2 / 0.5	No	294,385.20	693.80	0.0	Off - Recalibrated transducer depth after fall restart
DPE-08	10/18/18 14:15	22.50	13.88	8.62	14.86	6.24	2 / 0.5	No	294,385.20	0.00	0.0	Off
DPE-08	10/26/18 16:10	22.50	13.72	8.78	14.86	6.08	2 / 0.5	No	294,543.70	158.50	0.0	Off
DPE-08	11/7/18 16:10	22.50	14.01	8.49	14.86	6.37	2 / 0.5	No	294,543.70	0.00	0.0	Off
DPE-08	11/13/18 13:20	22.50	11.00	11.50	14.86	3.36	2 / 0.5	Yes	294,882.50	338.80	5.4	
DPE-08	11/21/18 14:10	22.50	14.22	8.28	14.86	6.58	2 / 0.5	No	296,081.40	1,198.90	0.0	Off
DPE-08	1/11/19 10:30	22.50	15.59	6.91	14.86	7.95	2 / 0.5	No	296,986.60	905.20	0.0	Off
DPE-08	1/17/19 14:15	22.50	15.61	6.89	14.86	7.97	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	1/24/19 13:15	22.50	14.32	8.18	14.86	6.68	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	1/29/19 12:15	22.50	14.74	7.76	14.86	7.10	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	2/21/19 13:45	22.50	13.07	9.43	14.86	5.43	2 / 0.5	No	296,986.60	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-08												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4008)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-08	2/26/19 16:00	22.50	13.04	9.46	14.86	5.40	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	3/6/19 13:00	22.50	13.30	9.20	14.86	5.66	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	3/14/19 12:10	22.50	14.40	8.10	14.86	6.76	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	3/22/19 14:30	22.50	13.00	9.50	14.86	5.36	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	3/29/19 13:00	22.50	13.73	8.77	14.86	6.09	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	4/2/19 14:15	22.50	12.97	9.53	14.86	5.33	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	4/11/19 14:10	22.50	14.13	8.37	14.86	6.49	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	4/17/19 13:10	22.50	12.58	9.92	14.86	4.94	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	4/25/19 15:15	22.50	12.68	9.82	14.86	5.04	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	5/2/19 13:30	22.50	11.92	10.58	14.86	4.28	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	5/9/19 15:10	22.50	13.28	9.22	14.86	5.64	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	5/17/19 15:15	22.50	12.31	10.19	14.86	4.67	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	5/23/19 13:10	22.50	13.14	9.36	14.86	5.50	2 / 0.5	No	296,986.60	0.00	0.0	Off
DPE-08	5/30/19 14:35	22.50	12.10	10.40	14.86	4.46	2 / 0.5	No	296,986.6	0.00	0.0	Off
DPE-08	6/6/19 16:10	22.50	12.22	10.28	14.86	4.58	2 / 0.5	No	296,986.6	0.00	0.0	Off
DPE-08	8/2/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/15/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/21/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/5/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/9/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
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	5/6/2010	#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-08												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4008)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-08	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/17/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	12/20/2021	#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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-09	11/28/17 9:41	#N/A	#N/A	6.61	14.32	7.71	#N/A	#N/A	36.47	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-09	12/5/17 11:35	20.50	10.00	10.50	14.32	3.82	10/0.5	No	34,166	34,129.53	#N/A	Groundwater elevation estimated based on transducer setting
DPE-09	12/13/17 9:30	20.50	9.50	11.00	14.32	3.32	2 / 0.5	No	68,091.90	33,925.90	5.4	
DPE-09	12/13/17 14:00	20.50	9.85	10.65	14.32	3.67	2 / 0.5	No	69,584.60	1,492.70	5.6	
DPE-09	12/14/17 10:25	20.50	9.00	11.50	14.32	2.82	2 / 0.5	No	76,168.70	6,584.10	5.4	
DPE-09	12/20/17 12:50	20.50	10.35	10.15	14.32	4.17	2 / 0.5	No	101,590.60	25,421.90	5.6	
DPE-09	12/27/17 12:15	20.50	10.49	10.01	14.32	4.31	2 / 0.5	No	133,072.90	31,482.30	5.4	
DPE-09	1/5/18 16:20	20.50	10.40	10.10	14.32	4.22	2 / 0.5	No	164,575.90	31,503.00	5.6	
DPE-09	1/9/18 16:25	20.50	10.75	9.75	14.32	4.57	4 / 0.5	No	167,640.10	3,064.20	5.4	
DPE-09	1/18/18 14:20	20.50	14.10	6.40	14.32	7.92	4 / 0.5	No	178,087.80	10,447.70	0.0	Off
DPE-09	1/24/18 13:30	20.50	11.23	9.27	14.32	5.05	2 / 0.5	No	182,004.80	3,917.00	5.4	
DPE-09	2/1/18 10:10	20.50	10.00	10.50	14.32	3.82	2 / 0.5	No	228,383.70	46,378.90	5.6	
DPE-09	2/8/18 10:00	20.50	14.33	6.17	14.32	8.15	2 / 0.5	No	240,595.30	12,211.60	0.0	Off
DPE-09	2/13/18 9:50	20.50	14.04	6.46	14.32	7.86	2 / 0.5	No	240,595.30	0.00	0.0	Off
DPE-09	2/20/18 14:00	20.50	13.55	6.95	14.32	7.37	2 / 0.5	No	240,595.30	0.00	0.0	Off
DPE-09	2/28/18 14:00	20.50	10.04	10.46	14.32	3.86	2 / 0.5	No	273,687.60	33,092.30	5.6	
DPE-09	3/8/18 11:30	20.50	14.10	6.40	14.32	7.92	2 / 0.5	No	295,658.80	21,971.20	0.0	Off
DPE-09	3/14/18 12:00	20.50	14.09	6.41	14.32	7.91	2 / 0.5	No	295,658.80	0.00	0.0	Off
DPE-09	5/8/18 13:00	20.50	11.10	9.40	14.32	4.92	2 / 0.5	Yes	296,215.00	556.20	5.6	
DPE-09	5/17/18 15:45	20.50	12.96	7.54	14.32	6.78	2 / 0.5	No	305,403.30	9,188.30	0.0	Off
DPE-09	5/23/18 15:30	20.50	13.50	7.00	14.32	7.32	2 / 0.5	No	305,403.30	0.00	0.0	Off
DPE-09	5/29/18 16:30	20.50	12.60	7.90	14.32	6.42	2 / 0.5	No	305,714.40	311.10	0.0	Off
DPE-09	6/7/18 13:15	20.50	13.57	6.93	14.32	7.39	2 / 0.5	No	305,714.40	0.00	0.0	Off
DPE-09	6/15/18 13:00	20.50	13.70	6.80	14.32	7.52	2 / 0.5	No	305,714.40	0.00	0.0	Off
DPE-09	6/18/18 12:20	20.50	13.50	7.01	14.32	7.32	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-09	7/5/18 12:00	20.50	13.77	6.73	14.32	7.59	2 / 0.5	No	305,715.40	1.00	0.0	Off
DPE-09	7/11/18 12:30	20.50	13.00	7.50	14.32	6.82	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	7/19/18 14:30	20.50	13.60	6.90	14.32	7.42	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	7/26/18 15:00	20.50	12.85	7.65	14.32	6.67	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	8/3/18 15:10	20.50	13.06	7.44	14.32	6.88	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	8/7/18 12:45	20.50	12.94	7.56	14.32	6.76	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	8/15/18 14:00	20.50	13.40	7.10	14.32	7.22	2 / 0.5	No	305,715.40	0.00	0.0	Off
DPE-09	10/10/18 17:05	22.00	12.26	9.74	14.32	4.58	2 / 0.5	No	306,335.80	620.40	0.0	Off - Recalibrated transducer depth after fall restart
DPE-09	10/18/18 14:15	22.00	14.11	7.89	14.32	6.43	2 / 0.5	No	306,335.80	0.00	0.0	Off
DPE-09	10/26/18 16:10	22.00	13.97	8.03	14.32	6.29	2 / 0.5	No	306,599.90	264.10	0.0	Off
DPE-09	11/7/18 16:10	22.00	14.36	7.64	14.32	6.68	2 / 0.5	No	306,599.90	0.00	0.0	Off
DPE-09	11/13/18 13:20	22.00	11.65	10.35	14.32	3.97	2 / 0.5	Yes	306,953.40	353.50	5.6	
DPE-09	11/21/18 14:10	22.00	14.22	7.78	14.32	6.54	2 / 0.5	No	308,190.40	1,237.00	0.0	Off
DPE-09	1/11/19 10:30	22.00	16.07	5.93	14.32	8.39	2 / 0.5	No	308,192.50	2.10	0.0	Off
DPE-09	1/17/19 14:15	22.00	16.07	5.93	14.32	8.39	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	1/24/19 13:15	22.00	15.55	6.45	14.32	7.87	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	1/29/19 12:15	22.00	15.45	6.55	14.32	7.77	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	2/21/19 13:45	22.00	14.96	7.04	14.32	7.28	2 / 0.5	No	308,192.50	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-09												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4009)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-09	2/26/19 16:00	22.00	14.80	7.20	14.32	7.12	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	3/6/19 13:00	22.00	14.83	7.17	14.32	7.15	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	3/14/19 12:10	22.00	15.20	6.80	14.32	7.52	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	3/22/19 14:30	22.00	14.85	7.15	14.32	7.17	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	3/29/19 13:00	22.00	14.90	7.10	14.32	7.22	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	4/2/19 14:15	22.00	14.51	7.49	14.32	6.83	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	4/11/19 14:10	22.00	15.34	6.66	14.32	7.66	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	4/17/19 13:10	22.00	14.55	7.45	14.32	6.87	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	4/25/19 15:15	22.00	14.57	7.43	14.32	6.89	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	5/2/19 13:30	22.00	14.04	7.96	14.32	6.36	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	5/9/19 15:10	22.00	14.65	7.35	14.32	6.97	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	5/17/19 15:15	22.00	14.16	7.84	14.32	6.48	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	5/23/19 13:10	22.00	14.76	7.24	14.32	7.08	2 / 0.5	No	308,192.50	0.00	0.0	Off
DPE-09	5/30/19 14:35	22.00	13.98	8.02	14.32	6.30	2 / 0.5	No	308,192.5	0.00	0.0	Off
DPE-09	6/6/19 16:10	22.00	14.18	7.82	14.32	6.50	2 / 0.5	No	308,192.5	0.00	0.0	Off
DPE-09	8/2/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/15/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/21/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/5/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/9/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
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	5/6/2010	#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-09												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4009)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-09	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/17/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	12/20/2021	#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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-10	11/28/17 9:52	#N/A	#N/A	6.43	14.34	7.91	#N/A	#N/A	79.72	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-10	12/5/17 11:35	20.50	10.00	10.50	14.34	3.84	10 / 0.5	No	24,846	24,766.28	#N/A	Groundwater elevation estimated based on transducer setting
DPE-10	12/13/17 9:30	20.50	7.01	13.49	14.34	0.85	2 / 0.5	Yes	47,568.50	22,722.50	5.4	
DPE-10	12/13/17 14:00	20.50	7.00	13.50	14.34	0.84	2 / 0.5	Yes	48,953.60	1,385.10	5.4	
DPE-10	12/14/17 10:25	20.50	6.30	14.20	14.34	0.14	2 / 0.5	Yes	55,482.20	6,528.60	5.2	
DPE-10	12/20/17 12:50	20.50	8.25	12.25	14.34	2.09	2 / 0.5	Yes	79,541.00	24,058.80	5.4	
DPE-10	12/27/17 12:15	20.50	9.13	11.37	14.34	2.97	2 / 0.5	Yes	109,546.50	30,005.50	5.0	
DPE-10	1/5/18 16:20	20.50	10.00	10.50	14.34	3.84	2 / 0.5	Yes	138,951.20	29,404.70	5.4	
DPE-10	1/9/18 16:25	20.50	11.05	9.45	14.34	4.89	4 / 0.5	Yes	141,848.60	2,897.40	5.2	
DPE-10	1/18/18 14:20	20.50	11.73	8.77	14.34	5.57	4 / 0.5	Yes	164,269.30	22,420.70	5.0	
DPE-10	1/24/18 13:30	20.50	11.68	8.82	14.34	5.52	2 / 0.5	Yes	191,510.30	27,241.00	5.2	
DPE-10	2/1/18 10:10	20.50	10.45	10.05	14.34	4.29	2 / 0.5	Yes	235,558.60	44,048.30	5.4	
DPE-10	2/8/18 10:00	20.50	15.14	5.36	14.34	8.98	2 / 0.5	No	247,338.00	11,779.40	0.0	Off
DPE-10	2/13/18 9:50	20.50	15.08	5.42	14.34	8.92	2 / 0.5	No	247,338.00	0.00	0.0	Off
DPE-10	2/20/18 14:00	20.50	14.92	5.58	14.34	8.76	2 / 0.5	No	261,923.90	14,585.90	0.0	Off
DPE-10	2/28/18 14:00	20.50	14.05	6.45	14.34	7.89	2 / 0.5	No	261,937.40	13.50	0.0	Off
DPE-10	3/8/18 11:30	20.50	15.00	5.50	14.34	8.84	2 / 0.5	No	261,937.40	0.00	0.0	Off
DPE-10	3/14/18 12:00	20.50	15.22	5.28	14.34	9.06	2 / 0.5	No	261,937.40	0.00	0.0	Off
DPE-10	5/8/18 13:00	20.50	11.68	8.82	14.34	5.52	2 / 0.5	Yes	262,424.50	487.10	5.8	
DPE-10	5/17/18 15:45	20.50	14.25	6.25	14.34	8.09	2 / 0.5	No	272,097.50	9,673.00	0.0	Off
DPE-10	5/23/18 15:30	20.50	14.48	6.02	14.34	8.32	2 / 0.5	No	272,097.50	0.00	0.0	Off
DPE-10	5/29/18 16:30	20.50	14.04	6.46	14.34	7.88	2 / 0.5	No	272,421.00	323.50	0.0	Off
DPE-10	6/7/18 13:15	20.50	14.56	5.94	14.34	8.40	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	6/15/18 13:00	20.50	14.71	5.79	14.34	8.55	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	6/18/18 12:20	20.50	14.29	6.21	14.34	8.13	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-10	7/5/18 12:00	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off - Transducer off
DPE-10	7/11/18 12:00	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	7/19/18 14:30	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	7/26/18 15:00	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	8/3/18 15:10	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	8/7/18 12:45	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	8/15/18 14:00	-	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	272,421.00	0.00	0.0	Off
DPE-10	10/10/18 17:05	22.50	12.45	10.05	14.34	4.29	2 / 0.5	No	272,424.20	3.20	0.0	Off - Recalibrated transducer depth after fall restart
DPE-10	10/18/18 14:15	22.50	14.93	7.57	14.34	6.77	2 / 0.5	No	272,447.20	23.00	0.0	Off
DPE-10	10/26/18 16:10	22.50	13.23	9.27	14.34	5.07	2 / 0.5	No	273,903.20	1,456.00	0.0	Off
DPE-10	11/7/18 16:10	22.50	15.22	7.28	14.34	7.06	2 / 0.5	No	273,903.20	0.00	0.0	Off
DPE-10	11/13/18 13:20	22.50	11.52	10.98	14.34	3.36	2 / 0.5	Yes	274,287.30	384.10	6.0	
DPE-10	11/21/18 14:10	22.50	14.85	7.65	14.34	6.69	2 / 0.5	No	275,539.10	1,251.80	0.0	Off
DPE-10	1/11/19 10:30	22.50	15.59	6.91	14.34	7.43	2 / 0.5	No	275,539.10	0.00	0.0	Off
DPE-10	1/17/19 14:15	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	1/24/19 13:15	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	1/29/19 12:15	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	2/21/19 13:45	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-10	2/26/19 16:00	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	3/6/19 13:00	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	3/14/19 12:10	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	3/22/19 14:30	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	3/29/19 13:00	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	4/2/19 14:15	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	4/11/19 14:10	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	4/17/19 13:10	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	4/25/19 15:15	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	5/2/19 13:30	22.50	#N/A	#N/A	14.34	#N/A	2 / 0.5	No	275,539.10	0.00	0.0	Pump Faulted
DPE-10	5/9/19 15:10	22.50	14.54	7.96	14.34	6.38	2 / 0.5	No	275,539.10	0.00	0.0	Off
DPE-10	5/17/19 15:15	22.50	14.69	7.81	14.34	6.53	2 / 0.5	No	275,539.10	0.00	0.0	Off
DPE-10	5/23/19 13:10	22.50	14.96	7.54	14.34	6.80	2 / 0.5	No	275,539.10	0.00	0.0	Off
DPE-10	5/30/19 14:35	22.50	14.50	8.00	14.34	6.34	2 / 0.5	No	275,539.1	0.00	0.0	Off
DPE-10	6/6/19 16:10	22.50	14.54	7.96	14.34	6.38	2 / 0.5	No	275,539.1	0.00	0.0	Off
DPE-10	8/2/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/18/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/21/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/5/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/9/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/23/2019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
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	5/6/2010	#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-10												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4010)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-10	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/17/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	12/20/2021	#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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-11	11/28/17 9:56	#N/A	#N/A	6.13	14.27	8.14	#N/A	#N/A	318.47	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-11	12/5/17 11:35	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	No	453.55	135.08	#N/A	Groundwater elevation estimated based on transducer setting
DPE-11	12/13/17 9:30	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	3,408.30	2,954.75	2.4	
DPE-11	12/13/17 14:00	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	4,091.90	683.60	2.4	
DPE-11	12/14/17 10:25	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	6,693.90	2,602.00	2.2	
DPE-11	12/20/17 12:50	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	16,297.60	9,603.70	2.2	
DPE-11	12/27/17 12:15	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	29,022.70	12,725.10	2.8	
DPE-11	1/5/18 16:20	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	43,822.40	14,799.70	3.2	
DPE-11	1/9/18 16:25	20.50	4.00	16.50	14.27	-2.23	4 / 0.5	Yes	45,650.50	1,828.10	2.8	
DPE-11	1/18/18 14:20	20.50	4.00	16.50	14.27	-2.23	4 / 0.5	Yes	58,427.80	12,777.30	2.8	
DPE-11	1/24/18 13:30	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	74,200.80	15,773.00	2.2	
DPE-11	2/1/18 10:10	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	104,532.10	30,331.30	3.6	
DPE-11	2/8/18 10:00	20.50	15.92	4.58	14.27	9.69	2 / 0.5	No	112,402.00	7,869.90	0.0	Off
DPE-11	2/13/18 9:50	20.50	15.88	4.62	14.27	9.65	2 / 0.5	No	112,402.00	0.00	0.0	Off
DPE-11	2/20/18 14:00	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	132,333.30	19,931.30	3.2	
DPE-11	2/28/18 14:00	20.50	15.59	4.91	14.27	9.36	2 / 0.5	No	136,719.20	4,385.90	0.0	Off
DPE-11	3/8/18 11:30	20.50	15.94	4.56	14.27	9.71	2 / 0.5	No	136,719.20	0.00	0.0	Off
DPE-11	3/14/18 12:00	20.50	15.97	4.53	14.27	9.74	2 / 0.5	No	136,719.20	0.00	0.0	Off
DPE-11	5/8/18 13:00	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	136,801.20	82.00	4.0	
DPE-11	5/17/18 15:45	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	177,717.60	40,916.40	4.6	
DPE-11	5/23/18 15:30	20.50	1.94	18.56	14.27	-4.29	2 / 0.5	Yes	212,613.50	34,895.90	4.4	
DPE-11	5/29/18 16:30	20.50	1.55	18.95	14.27	-4.68	2 / 0.5	Yes	250,270.30	37,656.80	5.0	
DPE-11	6/7/18 13:15	20.50	1.88	18.62	14.27	-4.35	2 / 0.5	Yes	274,351.50	24,081.20	4.4	
DPE-11	6/15/18 13:00	20.50	1.95	18.55	14.27	-4.28	2 / 0.5	Yes	295,909.20	21,557.70	6.0	
DPE-11	6/18/18 12:20	20.50	1.97	18.54	14.27	-4.27	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-11	7/5/18 12:00	20.50	2.00	18.50	14.27	-4.23	2 / 0.5	Yes	355,664.50	59,755.30	5.4	
DPE-11	7/11/18 11:35	20.50	7.23	13.27	14.27	1.00	2 / 0.5	Yes	396,622.50	40,958.00	5.6	
DPE-11	7/19/18 14:30	20.50	10.59	9.91	14.27	4.36	2 / 0.5	Yes	402,718.40	6,095.90	5.6	
DPE-11	7/26/18 15:00	20.50	8.18	12.32	14.27	1.95	2 / 0.5	Yes	444,975.50	42,257.10	5.4	
DPE-11	8/3/18 15:10	20.50	2.81	17.69	14.27	-3.42	2 / 0.5	Yes	477,673.50	32,698.00	5.6	
DPE-11	8/7/18 12:45	20.50	1.90	18.60	14.27	-4.33	2 / 0.5	Yes	511,052.50	33,379.00	5.6	
DPE-11	8/15/18 14:00	20.50	1.97	18.53	14.27	-4.26	2 / 0.5	Yes	565,837.50	54,785.00	5.4	
DPE-11	10/10/18 17:05	23.00	7.88	15.12	14.27	-0.85	2 / 0.5	No	567,668.50	1,831.00	6.2	
DPE-11	10/18/18 14:15	23.00	15.30	7.70	14.27	6.57	2 / 0.5	No	573,842.70	6,174.20	0.0	Off - Recalibrated transducer depth after fall restart
DPE-11	10/26/18 16:10	23.00	5.60	17.40	14.27	-3.13	2 / 0.5	No	575,888.80	2,046.10	5.8	
DPE-11	11/7/18 16:10	23.00	4.44	18.56	14.27	-4.29	2 / 0.5	No	577,438.50	1,549.70	5.6	
DPE-11	11/13/18 13:20	23.00	2.31	20.69	14.27	-6.42	2 / 0.5	Yes	619,811.50	42,373.00	6.8	
DPE-11	11/21/18 14:10	23.00	2.00	21.00	14.27	-6.73	2 / 0.5	Yes	657,146.60	37,335.10	6.0	
DPE-11	1/11/19 10:30	23.00	3.30	19.70	14.27	-5.43	2 / 0.5	No	762,008.30	104,861.70	7.2	
DPE-11	1/17/19 14:15	23.00	2.00	21.00	14.27	-6.73	2 / 0.5	No	820,176.50	58,168.20	6.4	
DPE-11	1/24/19 13:15	23.00	6.69	16.31	14.27	-2.04	2 / 0.5	No	843,026.40	22,849.90	7.2	
DPE-11	1/29/19 12:15	23.00	4.40	18.60	14.27	-4.33	2 / 0.5	No	862,465.80	19,439.40	7.6	
DPE-11	2/21/19 13:45	23.00	4.55	18.45	14.27	-4.18	2 / 0.5	No	904,121.80	41,656.00	8.0	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-11	2/26/19 16:00	23.00	6.93	16.07	14.27	-1.80	2 / 0.5	No	957,511.90	53,390.10	8.0	
DPE-11	3/6/19 13:00	23.00	3.34	19.66	14.27	-5.39	2 / 0.5	No	1,021,862.00	64,350.10	6.9	
DPE-11	3/14/19 12:10	23.00	2.00	21.00	14.27	-6.73	2 / 0.5	No	1,090,021.00	68,159.00	7.6	
DPE-11	3/22/19 14:30	23.00	7.00	16.00	14.27	-1.73	2 / 0.5	No	1,090,021.00	0.00	7.6	
DPE-11	3/29/19 13:00	23.00	5.00	18.00	14.27	-3.73	2 / 0.5	No	1,165,622.20	75,601.20	7.8	
DPE-11	4/2/19 13:00	23.00	2.00	21.00	14.27	-6.73	2 / 0.5	No	1,197,519.50	31,897.30	7.8	
DPE-11	4/11/19 14:10	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,234,399.10	36,879.60	7.0	
DPE-11	4/17/19 13:10	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,271,856.90	37,457.80	7.0	
DPE-11	4/25/19 15:15	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,299,300.10	27,443.20	7.4	
DPE-11	5/2/19 13:30	23.00	6.51	16.49	14.27	-2.22	6 / 0.5	No	1,353,375.20	54,075.10	7.4	
DPE-11	5/9/19 15:10	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,407,450.30	54,075.10	7.0	
DPE-11	5/17/19 15:15	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,468,631.50	61,181.20	7.2	
DPE-11	5/23/19 13:10	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,509,123.40	40,491.90	7.0	
DPE-11	5/30/19 14:35	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,562,425.6	53,302.20	7.0	
DPE-11	6/6/19 16:10	23.00	6.00	17.00	14.27	-2.73	6 / 0.5	No	1,624,236.5	61,810.90	7.0	
DPE-11	8/2/19 15:00	23.00	15.97	7.03	14.27	7.24	6 / 0.5	No	1,653,703.0	29,466.5	0.00	DPE system expansion baseline event before system startup - System off
DPE-11	8/15/19 14:20	23.00	15.85	7.15	14.27	7.12	6 / 0.5	No	1,653,703.3	0.3	0.0	Off
DPE-11	8/21/19 12:07	23.00	15.72	7.28	14.27	6.99	6 / 0.5	No	1,653,703.3	0.0	0.0	Off
DPE-11	9/5/19 13:41	23.00	10.68	12.32	14.27	1.95	6 / 0.5	Yes	1,653,703.3	0.0	0.0	
DPE-11	9/9/19 11:58	23.00	9.80	13.20	14.27	1.07	6 / 0.5	No	1,653,703.3	0.0	0.0	
DPE-11	9/23/19 15:35	23.00	8.74	14.26	14.27	0.01	6 / 0.5	Yes	1,653,718.6	15.3	0.0	
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	1,653,718.50	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	1,653,718.50	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	1,653,718.50	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-11												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4011)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-11	7/16/21 10:31	23.00	16.05	6.95	14.27	7.32	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	7/21/21 13:45	23.00	16.12	6.88	14.27	7.39	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	7/30/21 10:45	23.00	16.1	6.90	14.27	7.37	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	8/5/21 11:42	23.00	15.85	7.15	14.27	7.12	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	8/11/21 12:30	23.00	15.81	7.19	14.27	7.08	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	8/17/21 12:30	23.00	15.84	7.16	14.27	7.11	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	8/27/21 9:54	23.00	16.01	6.99	14.27	7.28	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	9/1/21 11:24	23.00	15.81	7.19	14.27	7.08	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	9/7/21 11:36	23.00	15.87	7.13	14.27	7.14	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	9/15/21 12:26	23.00	15.84	7.16	14.27	7.11	6 / 0.5	No	1,653,718.50	0.00	0.0	Off
DPE-11	9/24/21 11:38	23.00	10.8	12.20	14.27	2.07	6 / 0.5	Yes	1,653,718.50	0.00	0.0	On, flowmeter broken
DPE-11	9/30/21 13:25	23.00	10.78	12.22	14.27	2.05	6 / 0.5	Yes	1,653,718.50	0.00	0.0	On, flowmeter broken
DPE-11	10/6/21 12:08	23.00	10.48	12.52	14.27	1.75	6 / 0.5	Yes	1,653,718.50	0.00	0.0	On, flowmeter broken
DPE-11	10/18/21 13:14	23.00	10.2	12.80	14.27	1.47	6 / 0.5	Yes	1,666,193.00	12,474.50	3.1	On
DPE-11	10/25/21 13:38	23.00	10.78	12.22	14.27	2.05	6 / 0.5	Yes	1,681,932.20	15,739.20	3.1	On
DPE-11	11/12/21 11:02	23.00	10.54	12.46	14.27	1.81	2 / 0.5	Yes	1,689,535.30	7,603.10	0.0	Off - Pump maintenance test
DPE-11	11/19/21 12:14	23.00	16.82	6.18	14.27	8.09	2 / 0.5	No	1,689,535.30	0.00	0.0	Off
DPE-11	11/24/21 10:58	23.00	16.65	6.35	14.27	7.92	2 / 0.5	No	1,689,535.30	0.00	0.0	Off
DPE-11	11/29/21 13:26	23.00	16.46	6.54	14.27	7.73	2 / 0.5	No	1,689,535.30	0.00	0.0	Off
DPE-11	12/16/21 10:52	23.00	16.90	6.10	14.27	8.17	2 / 0.5	No	1,689,960.40	425.10	0.0	Off
DPE-11	12/20/21 12:51	23.00	11.9	11.10	14.27	3.17	2 / 0.5	Yes	1,694,428.40	4,468.00	2.2	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-12	11/28/17 10:02	#N/A	#N/A	6.49	14.16	7.67	#N/A	#N/A	40.18	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-12	12/5/17 11:35	20.50	#N/A	#N/A	14.16	#N/A	#N/A	No	32,421	32,380.82	#N/A	Transducer errors with pump testing and trouble shooting
DPE-12	12/13/17 9:30	20.50	#N/A	#N/A	14.16	#N/A	#N/A	No	58,161.00	25,740.00	0.0	Transducer errors with pump testing and trouble shooting
DPE-12	12/13/17 14:00	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	12/14/17 10:25	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	12/20/17 12:50	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	12/27/17 12:15	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	1/5/18 16:20	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	1/9/18 16:25	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	1/18/18 14:20	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	1/24/18 13:30	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	2/1/18 10:10	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	2/8/18 10:00	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	2/13/18 9:50	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	2/20/18 14:00	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	2/28/18 14:00	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	3/8/18 11:30	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12	3/14/18 12:00	20.50	#N/A	#N/A	14.16	#N/A	--	No	58,161.00	0.00	0.0	Off
DPE-12-R	5/8/18 13:00	20.50	8.33	12.17	14.30	2.13	2 / 0.5	Yes	58,708.60	547.60	5.2	DPE-12 decommissioned; DPE-12R installed approximately four feet west
DPE-12-R	5/17/18 15:45	20.50	8.99	11.51	14.30	2.79	2 / 0.5	Yes	113,028.50	54,319.90	5.0	
DPE-12-R	5/23/18 15:30	20.50	8.77	11.73	14.30	2.57	2 / 0.5	Yes	158,502.60	45,474.10	5.4	
DPE-12-R	5/29/18 16:30	20.50	9.34	11.16	14.30	3.14	2 / 0.5	Yes	202,654.80	44,152.20	5.6	
DPE-12-R	6/7/18 13:15	20.50	9.30	11.20	14.30	3.10	2 / 0.5	Yes	230,704.80	28,050.00	5.8	
DPE-12-R	6/15/18 13:00	20.50	9.22	11.28	14.30	3.02	2 / 0.5	Yes	263,801.50	33,096.70	6.0	
DPE-12-R	6/18/18 12:20	20.50	8.60	11.90	14.30	2.40	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-12-R	7/5/18 12:00	20.50	8.90	11.60	14.30	2.70	2 / 0.5	Yes	332,619.10	68,817.60	5.8	
DPE-12-R	7/11/18 11:35	20.50	9.01	11.49	14.30	2.81	2 / 0.5	Yes	382,016.80	49,397.70	5.8	
DPE-12-R	7/19/18 14:30	20.50	9.34	11.16	14.30	3.14	2 / 0.5	Yes	388,021.80	6,005.00	5.6	
DPE-12-R	7/26/18 15:00	20.50	9.22	11.28	14.30	3.02	2 / 0.5	Yes	435,243.80	47,222.00	5.6	
DPE-12-R	8/3/18 15:10	20.50	9.02	11.48	14.30	2.82	2 / 0.5	Yes	469,798.60	34,554.80	5.6	
DPE-12-R	8/7/18 12:45	20.50	8.65	11.85	14.30	2.45	2 / 0.5	Yes	505,681.50	35,882.90	5.6	
DPE-12-R	8/15/18 14:00	20.50	8.87	11.63	14.30	2.67	2 / 0.5	Yes	571,773.40	66,091.90	5.8	
DPE-12-R	10/10/18 17:05	22.00	10.31	11.69	14.30	2.61	2 / 0.5	No	573,505.50	1,732.10	7.0	
DPE-12-R	10/18/18 14:15	22.00	14.33	7.67	14.30	6.63	2 / 0.5	No	579,780.00	6,274.50	0.0	Recalibrated transducer depth after fall restart
DPE-12-R	10/26/18 16:10	22.00	10.55	11.45	14.30	2.85	2 / 0.5	No	581,983.10	2,203.10	6.0	
DPE-12-R	11/7/18 16:10	22.00	10.50	11.50	14.30	2.80	2 / 0.5	No	583,532.90	1,549.80	6.2	
DPE-12-R	11/13/18 13:20	22.00	9.53	12.47	14.30	1.83	2 / 0.5	Yes	627,396.50	43,863.60	7.0	
DPE-12-R	11/21/18 14:10	22.00	10.30	11.70	14.30	2.60	2 / 0.5	Yes	668,290.10	40,893.60	6.2	
DPE-12-R	1/11/19 10:30	22.00	10.00	12.00	14.30	2.30	2 / 0.5	No	778,883.50	110,593.40	7.6	
DPE-12-R	1/17/19 14:15	22.00	9.58	12.42	14.30	1.88	2 / 0.5	No	844,847.40	65,963.90	7.4	
DPE-12-R	1/24/19 13:15	22.00	10.51	11.49	14.30	2.81	2 / 0.5	No	871,617.00	26,769.60	7.8	
DPE-12-R	1/29/19 12:15	22.00	9.72	12.28	14.30	2.02	2 / 0.5	No	893,607.50	21,990.50	7.8	
DPE-12-R	2/21/19 13:45	22.00	10.60	11.40	14.30	2.90	2 / 0.5	No	939,217.30	45,609.80	8.4	

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-12-R	2/26/19 16:00	22.00	10.84	11.16	14.30	3.14	2 / 0.5	No	998,216.60	58,999.30	8.2	
DPE-12-R	3/6/19 13:00	22.00	10.53	11.47	14.30	2.83	2 / 0.5	No	1,073,505.70	75,289.10	8.2	
DPE-12-R	3/14/19 12:10	22.00	10.44	11.56	14.30	2.74	2 / 0.5	No	1,154,072.80	80,567.10	8.2	
DPE-12-R	3/22/19 14:30	22.00	10.93	11.07	14.30	3.23	2 / 0.5	No	1,154,072.80	0.00	8.2	
DPE-12-R	3/29/19 13:00	22.00	10.27	11.73	14.30	2.57	2 / 0.5	No	1,239,612.80	85,540.00	8.2	
DPE-12-R	4/2/19 13:00	22.00	10.19	11.81	14.30	2.49	10.2 / 4	No	1,277,401.50	37,788.70	8.0	
DPE-12-R	4/11/19 14:10	22.00	10.50	11.50	14.30	2.80	10.2 / 4	No	1,320,104.50	42,703.00	7.0	
DPE-12-R	4/17/19 13:10	22.00	10.45	11.55	14.30	2.75	10.2 / 4	No	1,368,387.40	48,282.90	8.8	
DPE-12-R	4/25/19 15:15	22.00	10.43	11.57	14.30	2.73	10.2 / 4	No	1,402,959.90	34,572.50	8.6	
DPE-12-R	5/2/19 13:30	22.00	10.48	11.52	14.30	2.78	10.2 / 4	No	1,442,139.20	39,179.30	8.6	
DPE-12-R	5/9/19 15:10	22.00	10.48	11.52	14.30	2.78	10.2 / 4	No	1,539,839.30	97,700.10	8.6	
DPE-12-R	5/17/19 15:15	22.00	10.48	11.52	14.30	2.78	10.2 / 4	No	1,621,524.40	81,685.10	8.6	
DPE-12-R	5/23/19 13:10	22.00	14.62	7.38	14.30	6.92	10.2 / 4	No	1,672,835.60	51,311.20	0.0	Off
DPE-12-R	5/30/19 14:35	22.00	14.41	7.59	14.30	6.71	10.2 / 4	No	1,672,835.60	0.00	0.0	Off
DPE-12-R	6/6/19 16:10	22.00	14.38	7.62	14.30	6.68	10.2 / 4	No	1,672,835.60	0.00	0.0	Off
DPE-12-R	8/2/19 15:00	22.00	14.84	7.16	14.30	7.14	10.2 / 4	No	1,672,835.6	0.0	0.00	DPE system expansion baseline event before system startup - System off
DPE-12-R	8/15/19 14:20	22.00	14.71	7.29	14.30	7.01	10.2 / 4	No	1,672,835.6	0.0	0.0	Off
DPE-12-R	8/21/19 12:07	22.00	14.70	7.30	14.30	7.00	10.2 / 4	No	1,672,835.6	0.0	0.0	Off
DPE-12-R	9/5/19 13:41	22.00	11.11	10.89	14.30	3.41	10.2 / 4	Yes	1,673,258.1	422.5	9.4	
DPE-12-R	9/9/19 11:58	22.00	10.96	11.04	14.30	3.26	10.2 / 4	No	1,674,850.6	1,592.5	9.2	
DPE-12-R	9/23/19 15:35	22.00	10.72	11.28	14.30	3.02	10.2 / 4	Yes	1,707,825.5	32,974.9	10.2	
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	29,094.40	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	84,591.90	9.4	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-12-R	7/16/21 10:32	22.00	14.82	7.18	14.30	7.12	10.2 / 4	No	3,126,876.1	60,348.60	0.0	Off
DPE-12-R	7/21/21 13:45	22.00	14.9	7.10	14.30	7.20	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	7/30/21 10:45	22.00	14.87	7.13	14.30	7.17	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	8/5/21 11:44	22.00	14.66	7.34	14.30	6.96	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	8/11/21 12:30	22.00	14.67	7.33	14.30	6.97	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	8/17/21 11:09	22.00	14.72	7.28	14.30	7.02	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	8/27/21 9:54	22.00	14.85	7.15	14.30	7.15	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	9/1/21 11:26	22.00	14.65	7.35	14.30	6.95	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	9/7/21 11:38	22.00	14.68	7.32	14.30	6.98	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	9/15/21 12:38	22.00	14.67	7.33	14.30	6.97	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	9/24/21 11:38	22.00	14.76	7.24	14.30	7.06	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	9/30/21 13:26	22.00	14.80	7.20	14.30	7.10	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	10/6/21 12:10	22.00	14.80	7.20	14.30	7.10	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	10/18/21 13:13	22.00	14.87	7.13	14.30	7.17	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	10/25/21 13:40	22.00	15.2	6.80	14.30	7.50	10.2 / 4	No	3,126,876.1	0.00	0.0	Off
DPE-12-R	11/12/21 11:04	22.00	15.4	6.60	14.30	7.70	10.2 / 4	No	3,126,876.3	0.20	0.0	Off - Pump maintenance test
DPE-12-R	11/19/21 12:14	22.00	15.46	6.54	14.30	7.76	10.2 / 4	No	3,126,876.3	0.00	0.0	Off
DPE-12-R	11/24/21 11:00	22.00	15.41	6.59	14.30	7.71	10.2 / 4	No	3,126,876.3	0.00	0.0	Off
DPE-12-R	11/29/21 13:28	22.00	15.43	6.57	14.30	7.73	10.2 / 4	No	3,126,876.3	0.00	0.0	Off
DPE-12-R	12/16/21 10:52	22.00	15.56	6.44	14.30	7.86	10.2 / 4	No	3,126,876.3	0.00	0.0	Off
DPE-12-R	12/20/21 12:51	22.00	15.77	6.23	14.30	8.07	10.2 / 4	No	3,126,876.3	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-13												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4013)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-13	11/28/17 10:06	#N/A	#N/A	5.90	13.77	7.87	#N/A	#N/A	81.12	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-13	12/5/17 11:35	20.50	10	10.50	13.77	3.27	10 / 0.5	No	31,850	31,768.88	#N/A	Groundwater elevation estimated based on transducer setting
DPE-13	12/13/17 9:30	20.50	6.60	13.90	13.77	-0.13	2 / 0.5	Yes	34,433.30	2,583.30	5.4	
DPE-13	12/13/17 14:00	20.50	6.50	14.00	13.77	-0.23	2 / 0.5	Yes	35,809.00	1,375.70	5.4	
DPE-13	12/14/17 10:25	20.50	6.30	14.20	13.77	-0.43	2 / 0.5	Yes	42,284.10	6,475.10	5.2	
DPE-13	12/20/17 12:50	20.50	7.50	13.00	13.77	0.77	2 / 0.5	Yes	96,996.20	54,712.10	5.4	
DPE-13	12/27/17 12:15	20.50	8.10	12.40	13.77	1.37	2 / 0.5	Yes	127,837.20	30,841.00	5.3	
DPE-13	1/5/18 16:20	20.50	9.66	10.84	13.77	2.93	2 / 0.5	Yes	159,789.40	31,952.20	5.6	
DPE-13	1/9/18 16:25	20.50	10.00	10.50	13.77	3.27	4 / 0.5	Yes	162,903.20	3,113.80	5.4	
DPE-13	1/18/18 14:20	20.50	10.18	10.32	13.77	3.45	4 / 0.5	Yes	187,700.40	24,797.20	5.4	
DPE-13	1/24/18 13:30	20.50	10.50	10.00	13.77	3.77	2 / 0.5	Yes	217,933.20	30,232.80	5.8	
DPE-13	2/1/18 10:10	20.50	9.47	11.03	13.77	2.74	2 / 0.5	Yes	267,457.30	49,524.10	5.8	
DPE-13	2/8/18 10:00	20.50	5.89	14.61	13.77	-0.84	2 / 0.5	No	280,653.80	13,196.50	0.0	Off
DPE-13	2/13/18 9:50	20.50	15.80	4.70	13.77	9.07	2 / 0.5	No	280,653.80	0.00	0.0	Off
DPE-13	2/20/18 14:00	20.50	9.45	11.05	13.77	2.72	2 / 0.5	No	314,463.50	33,809.70	4.2	
DPE-13	2/28/18 14:00	20.50	15.68	4.82	13.77	8.95	2 / 0.5	No	321,791.60	7,328.10	0.0	Off
DPE-13	3/8/18 11:30	20.50	15.95	4.55	13.77	9.22	2 / 0.5	No	321,791.60	0.00	0.0	Off
DPE-13	3/14/18 12:00	20.50	15.95	4.55	13.77	9.22	2 / 0.5	No	321,791.60	0.00	0.0	Off
DPE-13	5/8/18 13:00	20.50	9.89	10.61	13.77	3.16	2 / 0.5	Yes	322,410.10	618.50	5.8	
DPE-13	5/17/18 15:45	20.50	9.81	10.69	13.77	3.08	2 / 0.5	Yes	384,295.30	61,885.20	6.0	
DPE-13	5/23/18 15:30	20.50	9.9	10.60	13.77	3.17	2 / 0.5	Yes	434,629.20	50,333.90	5.8	
DPE-13	5/29/18 16:30	20.50	10.56	9.94	13.77	3.83	2 / 0.5	Yes	482,519.80	47,890.60	5.8	
DPE-13	6/7/18 13:15	20.50	10.81	9.69	13.77	4.08	2 / 0.5	Yes	511,278.90	28,759.10	5.8	
DPE-13	6/15/18 13:00	20.50	10.38	10.12	13.77	3.65	2 / 0.5	Yes	544,461.50	33,182.60	5.8	
DPE-13	6/18/18 12:20	20.50	9.93	10.57	13.77	3.20	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-13	7/5/18 12:00	20.50	10.00	10.50	13.77	3.27	2 / 0.5	Yes	611,165.50	66,704.00	5.6	
DPE-13	7/11/18 11:35	20.50	10.04	10.46	13.77	3.31	2 / 0.5	Yes	659,433.50	48,268.00	5.2	
DPE-13	7/19/18 14:30	20.50	10.54	9.96	13.77	3.81	2 / 0.5	Yes	665,104.40	5,670.90	5.2	
DPE-13	7/26/18 15:00	20.50	10.60	9.90	13.77	3.87	2 / 0.5	Yes	708,149.20	43,044.80	5.4	
DPE-13	8/3/18 15:10	20.50	10.00	10.50	13.77	3.27	2 / 0.5	Yes	758,551.80	50,402.60	5.2	
DPE-13	8/7/18 12:45	20.50	9.83	10.67	13.77	3.10	2 / 0.5	Yes	768,863.70	10,311.90	5.2	
DPE-13	8/15/18 14:00	20.50	10.33	10.17	13.77	3.60	2 / 0.5	Yes	822,798.20	53,934.50	5.4	
DPE-13	10/10/18 17:05	22.50	11.69	10.81	13.77	2.96	2 / 0.5	No	824,115.10	1,316.90	0.0	Off - Recalibrated transducer depth after fall restart
DPE-13	10/18/18 14:15	22.50	15.52	6.98	13.77	6.79	2 / 0.5	No	824,295.50	180.40	0.0	Off
DPE-13	10/26/18 16:10	22.50	15.28	7.22	13.77	6.55	2 / 0.5	No	824,453.40	157.90	0.0	Off
DPE-13	11/7/18 16:10	22.50	15.2	7.30	13.77	6.47	2 / 0.5	No	824,453.40	0.00	0.0	Off
DPE-13	11/13/18 13:20	22.50	10.9	11.60	13.77	2.17	2 / 0.5	Yes	824,816.60	363.20	5.4	
DPE-13	11/21/18 14:10	22.50	15.13	7.37	13.77	6.40	2 / 0.5	No	825,913.40	1,096.80	0.0	Off
DPE-13	1/11/19 10:30	22.50	11.10	11.40	13.77	2.37	2 / 0.5	No	893,258.00	67,344.60	5.8	
DPE-13	1/17/19 14:15	22.50	10.63	11.87	13.77	1.90	2 / 0.5	No	944,747.80	51,489.80	5.8	
DPE-13	1/24/19 13:15	22.50	11.45	11.05	13.77	2.72	2 / 0.5	No	965,543.00	20,795.20	5.8	
DPE-13	1/29/19 12:15	22.50	10.80	11.70	13.77	2.07	2 / 0.5	No	981,767.80	16,224.80	5.8	
DPE-13	2/21/19 13:45	22.50	15.56	6.94	13.77	6.83	2 / 0.5	No	998,099.40	16,331.60	0.0	Off

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-13	2/26/19 16:00	22.50	15.63	6.87	13.77	6.90	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	3/6/19 13:00	22.50	15.46	7.04	13.77	6.73	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	3/14/19 12:10	22.50	15.32	7.18	13.77	6.59	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	3/22/19 14:30	22.50	15.72	6.78	13.77	6.99	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	3/29/19 13:00	22.50	14.97	7.53	13.77	6.24	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	4/2/19 14:15	22.50	15.00	7.50	13.77	6.27	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	4/11/19 14:10	22.50	15.26	7.24	13.77	6.53	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	4/17/19 13:10	22.50	15.19	7.31	13.77	6.46	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	4/25/19 15:15	22.50	15.2	7.30	13.77	6.47	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	5/2/19 13:30	22.50	15.12	7.38	13.77	6.39	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	5/9/19 15:10	22.50	14.84	7.66	13.77	6.11	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	5/17/19 15:15	22.50	15.03	7.47	13.77	6.30	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	5/23/19 13:10	22.50	15.57	6.93	13.77	6.84	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	5/30/19 14:35	22.50	15.38	7.12	13.77	6.65	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	6/6/19 16:10	22.50	15.54	6.96	13.77	6.81	2 / 0.5	No	998,099.40	0.00	0.0	Off
DPE-13	8/2/19 15:00	22.50	15.96	6.54	13.77	7.23	2 / 0.5	No	998,099.4	0.0	0.00	DPE system expansion baseline event before system startup - System off
DPE-13	8/15/19 14:20	22.50	15.82	6.68	13.77	7.09	2 / 0.5	No	998,099.4	0.0	0.0	Off
DPE-13	8/21/19 12:08	22.50	15.77	6.73	13.77	7.04	2 / 0.5	No	998,099.4	0.0	0.0	Off
DPE-13	9/5/19 13:42	22.50	10.77	11.73	13.77	2.04	2 / 0.5	Yes	998,256.8	157.4	6.4	
DPE-13	9/9/19 11:59	22.50	10.72	11.78	13.77	1.99	2 / 0.5	No	999,370.6	1,113.8	6.4	
DPE-13	9/23/19 15:37	22.50	10.18	12.32	13.77	1.45	2 / 0.5	Yes	1,020,230.7	20,860.1	6.4	
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	1,041,352.9	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	1,041,352.9	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-13												
DPE Well ID	Date and Time	Transducer Depth	Water above Transducer (LT-4013)	Depth to Water <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-13	7/16/21 10:33	22.50	15.94	6.56	13.77	7.21	2 / 0.5	No	1,041,353.2	0.30	0.0	Off
DPE-13	7/21/21 13:45	22.50	15.99	6.51	13.77	7.26	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	7/30/21 10:45	22.50	15.96	6.54	13.77	7.23	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	8/5/21 11:46	22.50	15.8	6.70	13.77	7.07	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	8/11/21 12:38	22.50	15.79	6.71	13.77	7.06	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	8/17/21 11:06	22.50	15.84	6.66	13.77	7.11	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	8/27/21 9:54	22.50	15.96	6.54	13.77	7.23	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	9/1/21 11:28	22.50	15.78	6.72	13.77	7.05	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	9/7/21 11:40	22.50	15.81	6.69	13.77	7.08	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	9/15/21 12:30	22.50	15.8	6.70	13.77	7.07	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	9/24/21 11:39	22.50	15.89	6.61	13.77	7.16	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	9/30/21 13:26	22.50	15.91	6.59	13.77	7.18	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	10/6/21 12:12	22.50	14.80	7.70	13.77	6.07	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	10/18/21 13:13	22.50	15.97	6.53	13.77	7.24	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	10/25/21 16:28	22.50	15.28	7.22	13.77	6.55	2 / 0.5	No	1,041,353.2	0.00	0.0	Off
DPE-13	11/12/21 11:06	22.50	16.53	5.97	13.77	7.80	2 / 0.5	No	1,041,354.2	1.00	0.0	Off - Pump maintenance test
DPE-13	11/19/21 12:14	22.50	16.64	5.86	13.77	7.91	2 / 0.5	No	1,041,354.2	0.00	0.0	Off
DPE-13	11/24/21 11:02	22.50	16.58	5.92	13.77	7.85	2 / 0.5	No	1,041,354.2	0.00	0.0	Off
DPE-13	11/29/21 13:30	22.50	16.61	5.89	13.77	7.88	2 / 0.5	No	1,041,354.2	0.00	0.0	Off
DPE-13	12/16/21 10:53	22.50	16.74	5.76	13.77	8.01	2 / 0.5	No	1,041,354.2	0.00	0.0	Off
DPE-13	12/20/21 12:51	22.50	16.92	5.58	13.77	8.19	2 / 0.5	No	1,041,354.2	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-14	11/28/17 10:18	#N/A	#N/A	5.72	13.67	7.95	#N/A	#N/A	37.03	#N/A	#N/A	DPE System Baseline Event before System Startup - Pump off
DPE-14	12/5/17 11:35	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	No	23,220	23,182.97	#N/A	Groundwater elevation estimated based on transducer setting
DPE-14	12/13/17 9:30	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	Yes	47,810.00	24,590.00	5.0	
DPE-14	12/13/17 14:00	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	Yes	49,130.90	1,320.90	5.0	
DPE-14	12/14/17 10:25	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	Yes	54,529.10	5,398.20	4.8	
DPE-14	12/20/17 12:50	20.50	3.00	17.50	13.67	-3.83	2 / 0.5	Yes	75,867.00	21,337.90	5.0	
DPE-14	12/27/17 12:15	20.50	2.48	18.02	13.67	-4.35	2 / 0.5	Yes	103,867.20	28,000.20	5.0	
DPE-14	1/5/18 16:20	20.50	4.00	16.50	13.67	-2.83	2 / 0.5	Yes	131,365.30	27,498.10	5.0	
DPE-14	1/9/18 16:25	20.50	5.25	15.25	13.67	-1.58	4 / 0.5	Yes	134,142.60	2,777.30	5.0	
DPE-14	1/18/18 14:20	20.50	4.00	16.50	13.67	-2.83	4 / 0.5	Yes	156,331.30	22,188.70	5.0	
DPE-14	1/24/18 13:30	20.50	4.00	16.50	13.67	-2.83	2 / 0.5	Yes	182,560.10	26,228.80	5.2	
DPE-14	2/1/18 10:10	20.50	4.36	16.14	13.67	-2.47	2 / 0.5	Yes	231,111.00	48,550.90	5.8	
DPE-14	2/8/18 10:00	20.50	5.85	14.65	13.67	-0.98	2 / 0.5	No	244,698.20	13,587.20	0.0	Off
DPE-14	2/13/18 9:50	20.50	15.78	4.72	13.67	8.95	2 / 0.5	No	244,698.20	0.00	0.0	Off
DPE-14	2/20/18 14:00	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	No	276,964.30	32,266.10	5.2	
DPE-14	2/28/18 14:00	20.50	15.72	4.78	13.67	8.89	2 / 0.5	No	282,025.40	5,061.10	0.0	Off
DPE-14	3/8/18 11:30	20.50	15.96	4.54	13.67	9.13	2 / 0.5	No	282,025.40	0.00	0.0	Off
DPE-14	3/14/18 12:00	20.50	15.91	4.59	13.67	9.08	2 / 0.5	No	282,025.40	0.00	0.0	Off
DPE-14	5/8/18 13:00	20.50	3.00	17.50	13.67	-3.83	2 / 0.5	Yes	283,573.70	1,548.30	4.8	
DPE-14	5/17/18 15:45	20.50	3.00	17.50	13.67	-3.83	2 / 0.5	Yes	338,969.20	55,395.50	5.4	
DPE-14	5/23/18 15:30	20.50	2.13	18.37	13.67	-4.70	2 / 0.5	Yes	382,606.70	43,637.50	5.4	
DPE-14	5/29/18 16:30	20.50	4.69	15.81	13.67	-2.14	2 / 0.5	Yes	426,920.80	44,314.10	5.8	
DPE-14	6/7/18 13:15	20.50	1.92	18.58	13.67	-4.91	2 / 0.5	Yes	454,622.90	27,702.10	5.6	
DPE-14	6/15/18 13:00	20.50	2.18	18.32	13.67	-4.65	2 / 0.5	Yes	480,890.90	26,268.00	5.6	
DPE-14	6/18/18 12:20	20.50	1.98	18.53	13.67	-4.86	#N/A	#N/A	#N/A	#N/A	#N/A	
DPE-14	7/5/18 12:00	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	Yes	542,982.40	62,091.50	5.4	
DPE-14	7/11/18 11:35	20.50	3.00	17.50	13.67	-3.83	2 / 0.5	Yes	587,363.50	44,381.10	5.6	
DPE-14	7/19/18 14:30	20.50	2.91	17.59	13.67	-3.92	2 / 0.5	Yes	593,061.50	5,698.00	5.6	
DPE-14	7/26/18 15:00	20.50	6.42	14.08	13.67	-0.41	2 / 0.5	Yes	634,059.40	40,997.90	5.6	
DPE-14	8/3/18 15:10	20.50	2.62	17.88	13.67	-4.21	2 / 0.5	Yes	664,259.30	30,199.90	5.6	
DPE-14	8/7/18 12:45	20.50	1.92	18.58	13.67	-4.91	2 / 0.5	Yes	694,892.70	30,633.40	5.4	
DPE-14	8/15/18 14:00	20.50	2.00	18.50	13.67	-4.83	2 / 0.5	Yes	748,458.60	53,565.90	5.4	
DPE-14	10/10/18 17:05	23.00	4.74	18.26	13.67	-4.59	2 / 0.5	No	749,738.20	1,279.60	0.0	Off - Recalibrated transducer depth after fall restart
DPE-14	10/18/18 14:15	23.00	15.53	7.47	13.67	6.20	2 / 0.5	No	749,852.60	114.40	0.0	Off
DPE-14	10/26/18 16:10	23.00	15.46	7.54	13.67	6.13	2 / 0.5	No	750,112.70	260.10	0.0	Off
DPE-14	11/7/18 16:10	23.00	15.4	7.60	13.67	6.07	2 / 0.5	No	750,112.70	0.00	0.0	Off
DPE-14	11/13/18 13:20	23.00	4.56	18.44	13.67	-4.77	2 / 0.5	Yes	750,486.50	373.80	5.6	
DPE-14	11/21/18 14:10	23.00	15.31	7.69	13.67	5.98	2 / 0.5	No	751,625.60	1,139.10	0.0	Off
DPE-14	1/11/19 10:30	23.00	2.00	21.00	13.67	-7.33	2 / 0.5	No	814,100.10	62,474.50	5.2	
DPE-14	1/17/19 14:15	23.00	2.00	21.00	13.67	-7.33	2 / 0.5	No	857,759.80	43,659.70	4.8	
DPE-14	1/24/19 13:15	23.00	2.00	21.00	13.67	-7.33	2 / 0.5	No	874,965.30	17,205.50	4.2	
DPE-14	1/29/19 12:15	23.00	2.00	21.00	13.67	-7.33	2 / 0.5	No	888,738.40	13,773.10	5.2	
DPE-14	2/21/19 13:45	23.00	15.78	7.22	13.67	6.45	2 / 0.5	No	902,386.90	13,648.50	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-14	2/26/19 16:00	23.00	15.79	7.21	13.67	6.46	2 / 0.5	No	902,386.90	0.00	0.0	Off
DPE-14	3/6/19 13:00	23.00	15.66	7.34	13.67	6.33	2 / 0.5	No	902,386.90	0.00	0.0	Off
DPE-14	3/14/19 12:10	23.00	15.50	7.50	13.67	6.17	2 / 0.5	No	902,386.90	0.00	0.0	Off
DPE-14	3/22/19 14:30	23.00	15.90	7.10	13.67	6.57	2 / 0.5	No	902,386.90	0.00	0.0	Off
DPE-14	3/29/19 13:00	23.00	2.00	21.00	13.67	-7.33	2 / 0.5	No	902,428.20	41.30	6.4	
DPE-14	4/2/19 14:15	23.00	7.99	15.01	13.67	-1.34	8 / 0.5	No	926,435.50	24,007.30	3.4	
DPE-14	4/11/19 14:10	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	943,703.60	17,268.10	3.6	
DPE-14	4/17/19 13:10	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	962,614.70	18,911.10	3.4	
DPE-14	4/25/19 15:15	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	976,052.70	13,438.00	3.4	
DPE-14	5/2/19 13:30	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	996,670.10	20,617.40	3.4	
DPE-14	5/9/19 15:10	23.00	7.99	15.01	13.67	-1.34	8 / 4.0	No	1,027,792.00	31,121.90	3.6	
DPE-14	5/17/19 15:15	23.00	8.01	14.99	13.67	-1.32	8 / 4.0	No	1,056,878.70	29,086.70	3.6	
DPE-14	5/23/19 13:10	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	1,076,758.10	19,879.40	3.6	
DPE-14	5/30/19 14:35	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	1,104,889.4	28,131.30	3.6	
DPE-14	6/6/19 16:10	23.00	8.00	15.00	13.67	-1.33	8 / 4.0	No	1,139,265.9	34,376.50	3.4	
DPE-14	8/2/19 15:00	23.00	15.92	7.08	13.67	6.59	8 / 4.0	No	1,156,821.0	17,555.1	0.00	DPE system expansion baseline event before system startup - System off
DPE-14	8/15/19 14:21	23.00	15.77	7.23	13.67	6.44	8 / 4.0	No	1,156,821.2	0.2	0.0	Off
DPE-14	8/21/19 12:08	23.00	15.74	7.26	13.67	6.41	8 / 4.0	No	1,156,821.2	0.0	0.0	Off
DPE-14	9/5/19 13:43	23.00	7.99	15.01	13.67	-1.34	8 / 4.0	Yes	1,156,988.4	167.2	3.6	
DPE-14	9/9/19 11:59	23.00	7.99	15.01	13.67	-1.34	8 / 4.0	No	1,157,600.0	611.6	3.6	
DPE-14	9/23/19 15:37	23.00	8.01	14.99	13.67	-1.32	8 / 4.0	Yes	1,167,831.9	10,231.9	3.0	
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	1,177,865.10	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	1,177,869.90	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	1,177,869.90	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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	1,177,870.00	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-14	7/16/21 10:34	23.00	15.93	7.07	13.67	6.60	8 / 4.0	No	1,177,870.10	0.10	0.0	Off
DPE-14	7/21/21 13:43	23.00	16.23	6.77	13.67	6.90	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	7/30/21 10:45	23.00	16.16	6.84	13.67	6.83	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	8/5/21 11:48	23.00	15.79	7.21	13.67	6.46	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	8/11/21 12:38	23.00	15.78	7.22	13.67	6.45	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	8/17/21 11:04	23.00	15.81	7.19	13.67	6.48	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	8/27/21 9:54	23.00	15.93	7.07	13.67	6.60	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	9/1/21 11:28	23.00	15.76	7.24	13.67	6.43	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	9/7/21 11:42	23.00	15.8	7.20	13.67	6.47	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	9/15/21 12:32	23.00	15.78	7.22	13.67	6.45	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	9/24/21 11:39	23.00	15.87	7.13	13.67	6.54	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	9/30/21 13:26	23.00	15.88	7.12	13.67	6.55	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	10/6/21 12:14	23.00	15.89	7.11	13.67	6.56	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	10/18/21 13:11	23.00	15.94	7.06	13.67	6.61	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	10/25/21 13:44	23.00	16.24	6.76	13.67	6.91	8 / 4.0	No	1,177,870.10	0.00	0.0	Off
DPE-14	11/12/21 11:08	23.00	16.5	6.50	13.67	7.17	8 / 4.0	No	1,177,871.40	1.30	0.0	Off - Pump maintenance test
DPE-14	11/19/21 12:16	23.00	16.58	6.42	13.67	7.25	8 / 4.0	No	1,177,871.40	0.00	0.0	Off
DPE-14	11/24/21 11:04	23.00	16.55	6.45	13.67	7.22	8 / 4.0	No	1,177,871.40	0.00	0.0	Off
DPE-14	11/29/21 13:32	23.00	16.58	6.42	13.67	7.25	8 / 4.0	No	1,177,871.40	0.00	0.0	Off
DPE-14	12/16/21 10:53	23.00	16.69	6.31	13.67	7.36	8 / 4.0	No	1,177,871.40	0.00	0.0	Off
DPE-14	12/20/21 12:51	23.00	16.85	6.15	13.67	7.52	8 / 4.0	No	1,177,871.40	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-15	8/2/19 15:00	20.70	--	12.41	15.75	3.34	26 / 24.0	No	277,474.0	#N/A	6.40	*DPE System Expansion Baseline Event before System Startup - System off
DPE-15	8/15/19 14:22	20.70	4.32	16.38	15.75	-0.63	26 / 24.0	No	373,797.7	96,323.7	6.2	
DPE-15	8/21/19 12:08	20.70	4.26	16.44	15.75	-0.69	26 / 24.0	No	427,387.5	53,589.8	6.6	
DPE-15	9/5/19 13:43	20.70	3.12	17.58	15.75	-1.83	26 / 24.0	Yes	509,211.9	81,824.4	6.6	
DPE-15	9/9/19 11:59	20.70	3.10	17.60	15.75	-1.85	26 / 24.0	No	510,528.8	1,316.9	6.4	
DPE-15	9/23/19 15:37	20.70	4.12	16.58	15.75	-0.83	26 / 24.0	Yes	532,005.7	21,476.9	6.6	
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	31,091.7	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	46,301.2	5.4	On
DPE-15	7/16/21 10:35	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,439,698.0	101,251.6	5.4	On, level transmitter broken
DPE-15	7/21/21 13:45	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,477,625.0	37,927.0	5.4	On, level transmitter broken
DPE-15	7/30/21 10:45	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,532,024.1	54,399.1	5.2	On, level transmitter broken
DPE-15	8/5/21 11:50	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,577,475.6	45,451.5	5.4	On, level transmitter broken
DPE-15	8/11/21 12:40	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,617,646.2	40,170.6	5.3	On, level transmitter broken
DPE-15	8/17/21 10:42	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,652,653.0	35,006.8	5.3	On, level transmitter broken
DPE-15	8/27/21 9:54	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,653,837.1	1,184.1	0.6	On, level transmitter broken
DPE-15	9/1/21 11:32	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,684,948.9	31,111.8	5.3	On, level transmitter broken
DPE-15	9/7/21 11:44	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,717,171.7	32,222.8	5.3	On, level transmitter broken
DPE-15	9/15/21 12:34	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,762,113.5	44,941.8	5.3	On, sensor failure, unable to read transducer data
DPE-15	9/24/21 11:40	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,794,045.6	31,932.1	4.8	On, sensor failure, unable to read transducer data
DPE-15	9/30/21 13:27	20.70	#N/A	#N/A	15.75	#N/A	0.5 / 0	Yes	1,810,320.2	16,274.6	4.0	On, sensor failure, unable to read transducer data
DPE-15	10/6/21 12:16	20.70	#N/A	10.85	15.75	4.90	0.5 / 0	Yes	1,819,792.3	9,472.1	3.3	On, sensor failure, unable to read transducer data, DTW taken manually
DPE-15	10/18/21 12:40	20.70	11.83	8.87	15.75	6.88	0.5 / 0	Yes	1,832,402.0	12,609.7	0.0	On
DPE-15	10/25/21 13:46	20.70	12.89	7.81	15.75	7.94	0.5 / 0	Yes	1,832,402.0	0.0	0.0	Off, faulted

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-15	11/12/21 11:10	20.70	11.06	9.64	15.75	6.11	0.5 / 0	No	1,832,402.0	0.0	0.0	Off, faulted
DPE-15	11/19/21 12:18	20.70	#NA	#N/A	15.75	#N/A	0.5 / 0	No	1,832,402.2	0.2	0.0	GWE not available, pump being repaired
DPE-15	11/24/21 11:06	20.70	12.82	7.88	15.75	7.87	0.5 / 0	No	1,832,402.2	0.0	0.0	Off, faulted
DPE-15	11/29/21 13:34	20.70	12.77	7.93	15.75	7.82	0.5 / 0	No	1,832,402.2	0.0	0.0	Off, faulted
DPE-15	12/16/21 10:53	20.70	#N/A	#N/A	15.75	#N/A	#N/A	No	1,832,402.2	0.00	0.0	Off, faulted, under repair
DPE-15	12/20/21 12:52	20.70	#N/A	#N/A	15.75	#N/A	#N/A	No	1,832,402.2	0.0	0.0	Off, faulted, under repair

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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-16	8/2/19 15:00	20.70	--	10.18	16.14	5.96	26 / 24.0	No	296,534.0	#N/A	5.20	*DPE System Expansion Baseline Event before System Startup - System off
DPE-16	8/15/19 14:22	20.70	6.56	14.14	16.14	2.00	26 / 25.0	No	391,380.6	94,846.6	5.2	
DPE-16	8/21/19 12:09	20.70	6.54	14.16	16.14	1.98	26 / 25.0	No	437,385.0	46,004.4	5.6	
DPE-16	9/5/19 13:44	20.70	6.66	14.04	16.14	2.10	26 / 25.0	Yes	507,324.7	69,939.7	5.4	
DPE-16	9/9/19 12:00	20.70	6.40	14.30	16.14	1.84	26 / 25.0	No	508,439.3	1,114.6	5.6	
DPE-16	9/23/19 15:38	20.70	7.68	13.02	16.14	3.12	26 / 25.0	Yes	526,185.5	17,746.2	5.2	
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	29,037.5	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	42,613.0	4.8	On
DPE-16	7/16/21 10:36	20.70	7.39	13.31	16.14	2.83	26 / 25.0	Yes	1,370,566.8	95,720.8	5.0	On
DPE-16	7/21/21 13:45	20.70	7.37	13.33	16.14	2.81	26 / 25.0	Yes	1,406,865.8	36,299.0	5.0	On
DPE-16	7/30/21 10:45	20.70	7.39	13.31	16.14	2.83	26 / 25.0	Yes	1,460,152.5	53,286.7	5.2	On
DPE-16	8/5/21 12:00	20.70	7.15	13.55	16.14	2.59	26 / 25.0	Yes	1,505,631.3	45,478.8	5.2	On
DPE-16	8/11/21 12:42	20.70	7.25	13.45	16.14	2.69	26 / 25.0	Yes	1,544,994.1	39,362.8	5.2	On
DPE-16	8/17/21 10:43	20.70	7.37	13.33	16.14	2.81	26 / 25.0	Yes	1,578,522.5	33,528.4	4.9	On
DPE-16	8/27/21 9:54	20.70	7.58	13.12	16.14	3.02	26 / 25.0	Yes	1,579,612.3	1,089.8	5.6	On
DPE-16	9/1/21 11:34	20.70	7.34	13.36	16.14	2.78	26 / 25.0	Yes	1,608,074.2	28,461.9	4.9	On
DPE-16	9/7/21 11:46	20.70	7.47	13.23	16.14	2.91	26 / 25.0	Yes	1,637,652.5	29,578.3	4.9	On
DPE-16	9/15/21 12:36	20.70	7.46	13.24	16.14	2.90	26 / 25.0	Yes	1,679,983.2	42,330.7	4.9	On
DPE-16	9/24/21 11:48	20.70	7.58	13.12	16.14	3.02	26 / 25.0	Yes	1,709,855.2	29,872.0	4.8	On
DPE-16	9/30/21 13:30	20.70	7.75	12.95	16.14	3.19	26 / 25.0	Yes	1,728,675.3	18,820.1	5.0	On
DPE-16	10/6/21 12:18	20.70	7.58	13.12	16.14	3.02	26 / 25.0	Yes	1,741,604.9	12,929.6	4.8	On
DPE-16	10/18/21 12:42	20.70	7.48	13.22	16.14	2.92	26 / 25.0	Yes	1,783,479.1	41,874.2	4.8	On
DPE-16	10/25/21 13:48	20.70	7.81	12.89	16.14	3.25	26 / 25.0	Yes	1,806,893.6	23,414.5	4.8	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-16	11/12/21 11:08	20.70	7.96	12.74	16.14	3.40	26 / 25.0	Yes	1,818,069.2	11,175.6	4.9	On
DPE-16	11/19/21 12:20	20.70	8.00	12.70	16.14	3.44	26 / 25.0	Yes	1,840,158.4	22,089.2	4.9	On
DPE-16	11/24/21 11:08	20.70	9.58	11.12	16.14	5.02	26 / 25.0	Yes	1,840,390.5	130,535.3	5.0	On
DPE-16	11/29/21 13:36	20.70	8.03	12.67	16.14	3.47	26 / 25.0	Yes	1,860,108.5	19,718.0	4.9	On
DPE-16	12/16/21 10:55	20.70	7.96	12.74	16.14	3.40	26 / 25.0	Yes	1,935,710.6	75,602.1	4.8	On
DPE-16	12/20/21 12:53	20.70	8.39	12.31	16.14	3.83	26 / 25.0	Yes	1,943,351.1	7,640.5	4.5	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-17	8/2/19 15:00	20.70	--	8.64	16.35	7.71	26 / 25.0	No	309,544.0	#N/A	2.00	*DPE System Expansion Baseline Event before System Startup - System off
DPE-17	8/15/19 14:23	20.70	4.9	15.80	16.35	0.55	26 / 24.0	No	320,894.2	11,350.2	1.6	
DPE-17	8/21/19 12:09	20.70	4.63	16.07	16.35	0.28	26 / 24.0	No	333,443.6	12,549.4	1.6	
DPE-17	9/5/19 13:44	20.70	3.41	17.29	16.35	-0.94	26 / 24.0	Yes	353,458.0	20,014.4	1.0	
DPE-17	9/9/19 12:00	20.70	3.21	17.49	16.35	-1.14	26 / 24.0	No	353,901.9	443.9	1.6	
DPE-17	9/23/19 15:38	20.70	5.05	15.65	16.35	0.70	26 / 24.0	Yes	360,163.8	6,261.9	4.2	
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	9,218.3	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	13,207.9	1.6	On
DPE-17	7/16/21 10:37	20.70	1.61	19.09	16.35	-2.74	26 / 24.0	Yes	675,182.50	44,655.4	2.1	On
DPE-17	7/21/21 13:45	20.70	1.46	19.24	16.35	-2.89	26 / 24.0	Yes	699,841.58	24,659.1	4.1	On
DPE-17	7/30/21 10:45	20.70	1.42	19.28	16.35	-2.93	26 / 24.0	Yes	737,704.44	37,862.9	3.2	On
DPE-17	8/5/21 12:02	20.70	1.77	18.93	16.35	-2.58	26 / 24.0	Yes	769,451.40	31,747.0	3.4	On
DPE-17	8/11/21 12:45	20.70	1.67	19.03	16.35	-2.68	26 / 24.0	Yes	796,348.90	26,897.5	3.1	On
DPE-17	8/17/21 10:51	20.70	0.57	20.13	16.35	-3.78	26 / 24.0	Yes	815,045.50	18,696.6	4.4	On
DPE-17	8/27/21 9:54	20.70	4.10	16.60	16.35	-0.25	26 / 24.0	Yes	815,875.50	830.0	2.1	On
DPE-17	9/1/21 11:36	20.70	0.64	20.06	16.35	-3.71	26 / 24.0	Yes	832,805.10	16,929.6	2.4	On
DPE-17	9/7/21 11:48	20.70	0.43	20.27	16.35	-3.92	26 / 24.0	Yes	848,507.00	15,701.9	2.8	On
DPE-17	9/15/21 12:38	20.70	0.55	20.15	16.35	-3.80	26 / 24.0	Yes	869,266.30	20,759.3	2.4	On
DPE-17	9/24/21 11:42	20.70	4.05	16.65	16.35	-0.30	26 / 24.0	Yes	881,741.65	12,475.4	1.7	On
DPE-17	9/30/21 13:31	20.70	0.80	19.90	16.35	-3.55	26 / 24.0	Yes	889,925.83	8,184.2	2.1	On
DPE-17	10/6/21 12:20	20.70	0.62	20.08	16.35	-3.73	26 / 24.0	Yes	896,250.90	6,325.1	2.4	On
DPE-17	10/18/21 12:44	20.70	2.40	18.30	16.35	-1.95	26 / 24.0	Yes	912,202.70	15,951.8	3.4	On
DPE-17	10/25/21 13:50	20.70	0.60	20.10	16.35	-3.75	26 / 24.0	Yes	920,814.20	8,611.5	4.0	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-17	11/12/21 11:10	20.70	0.58	20.12	16.35	-3.77	26 / 24.0	Yes	925,248.10	4,433.9	4.5	On
DPE-17	11/19/21 12:22	20.70	4.56	16.14	16.35	0.21	26 / 24.0	Yes	935,792.20	10,544.1	1.2	On
DPE-17	11/24/21 11:10	20.70	3.97	16.73	16.35	-0.38	26 / 24.0	Yes	941,243.20	5,451.0	2.3	On
DPE-17	11/29/21 13:38	20.70	3.37	17.33	16.35	-0.98	26 / 24.0	Yes	948,867.80	7,624.6	1.7	On
DPE-17	12/16/21 10:55	20.70	3.77	16.93	16.35	-0.58	26 / 24.0	Yes	976,672.60	27,804.8	1.6	On
DPE-17	12/20/21 12:53	20.70	3.22	17.48	16.35	-1.13	26 / 24.0	Yes	979,410.90	2,738.3	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-18	8/2/19 15:00	20.70	--	8.64	14.89	6.25	22 / 20.0	No	598,132.0	#N/A	0.54	*DPE System Expansion Baseline Event before System Startup - System off
DPE-18	8/15/19 14:23	20.70	7.17	13.53	14.89	1.36	22 / 20.0	No	599,670.3	1,538.3	0.3	
DPE-18	8/21/19 12:09	20.70	7.15	13.55	14.89	1.34	22 / 20.0	No	599,787.0	116.7	0.0	
DPE-18	9/5/19 13:44	20.70	7.34	13.36	14.89	1.53	22 / 20.0	Yes	600,759.2	972.2	0.8	
DPE-18	9/9/19 12:00	20.70	7.16	13.54	14.89	1.35	22 / 20.0	No	600,841.0	81.8	0.5	
DPE-18	9/23/19 15:38	20.70	8.37	12.33	14.89	2.56	22 / 20.0	Yes	602,143.9	1,302.9	0.5	
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	2,234.6	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	2,248.6	0.2	On
DPE-18	7/16/21 10:38	20.70	3.26	17.44	14.89	-2.55	35 / 32.0	Yes	687,380.1	10,268.1	0.0	On
DPE-18	7/21/21 13:45	20.70	4.81	15.89	14.89	-1.00	35 / 32.0	Yes	692,283.7	4,903.6	2.5	On
DPE-18	7/30/21 10:45	20.70	4.16	16.54	14.89	-1.65	35 / 32.0	Yes	698,782.4	6,498.7	1.0	On
DPE-18	8/5/21 12:04	20.70	5.10	15.60	14.89	-0.71	35 / 32.0	Yes	704,052.5	5,270.1	0.0	On
DPE-18	8/11/21 12:48	20.70	4.26	16.44	14.89	-1.55	35 / 32.0	Yes	708,511.7	4,459.2	2.0	On
DPE-18	8/17/21 10:54	20.70	3.25	17.45	14.89	-2.56	35 / 32.0	Yes	712,298.7	3,787.0	0.0	On
DPE-18	8/27/21 9:54	20.70	4.03	16.67	14.89	-1.78	35 / 32.0	Yes	712,491.3	192.6	0.8	On
DPE-18	9/1/21 11:38	20.70	3.35	17.35	14.89	-2.46	35 / 32.0	Yes	716,935.2	4,443.9	0.0	On
DPE-18	9/7/21 11:50	20.70	3.13	17.57	14.89	-2.68	35 / 32.0	Yes	721,319.3	4,384.1	0.0	On
DPE-18	9/15/21 12:40	20.70	3.19	17.51	14.89	-2.62	35 / 32.0	Yes	727,306.2	5,986.9	--	On
DPE-18	9/24/21 11:43	20.70	4.06	16.64	14.89	-1.75	35 / 32.0	Yes	731,504.9	4,198.7	0.6	On
DPE-18	9/30/21 13:33	20.70	4.48	16.22	14.89	-1.33	35 / 32.0	Yes	733,939.4	2,434.5	1.3	On
DPE-18	10/6/21 12:22	20.70	5.37	15.33	14.89	-0.44	35 / 32.0	Yes	735,821.8	1,882.4	--	On
DPE-18	10/18/21 12:46	20.70	3.20	17.50	14.89	-2.61	35 / 32.0	Yes	741,584.0	5,762.2	1.1	On
DPE-18	10/25/21 13:52	20.70	3.22	17.48	14.89	-2.59	35 / 32.0	Yes	744,955.1	3,371.1	1.2	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 <sup>2</sup>	Casing Elevation	Groundwater Elevation	Variable Frequency Drive Setting	Vacuum Applied	Extracted Groundwater Volume Totalizer <sup>3</sup>	Periodic Extracted Groundwater Volume	Instantaneous DPE Well Groundwater Flow Rate <sup>4</sup>	Comments
	mm/dd/yy hh:mm <sup>1</sup>	ft btoc	ft	ft btoc	ft NAVD88	ft NAVD88	High/Low	yes/no	gal	gal	gpm	
DPE-18	11/12/21 11:12	20.70	3.58	17.12	14.89	-2.23	35 / 32.0	Yes	746,657.3	1,702.2	0.0	On
DPE-18	11/19/21 12:24	20.70	4.03	16.67	14.89	-1.78	35 / 32.0	Yes	750,533.7	3,876.4	3.3	On
DPE-18	11/24/21 11:12	20.70	4.06	16.64	14.89	-1.75	35 / 32.0	Yes	753,182.1	21,677.2	1.1	On
DPE-18	11/29/21 13:40	20.70	3.39	17.31	14.89	-2.42	35 / 32.0	Yes	756,655.6	3,473.5	1.0	On
DPE-18	12/16/21 10:55	20.70	3.69	17.01	14.89	-2.12	35 / 32.0	Yes	768,078.3	11,422.7	1.1	On
DPE-18	12/20/21 12:54	20.70	3.30	17.40	14.89	-2.51	35 / 32.0	Yes	769,219.9	1,141.6	0.0	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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-01	7/16/2021	14:06	100	5.0	5.0	6.4	
DPE-01	7/21/2021	14:10	100	5.0	5.0	6.4	
DPE-01	7/30/2021	10:55	100	5.0	5.0	15.9	
DPE-01	8/5/2021	12:30	100	#N/A	5.0	16.6	
DPE-01	8/11/2021	13:00	100	5.0	5.0	12.4	
DPE-01	8/17/2021	11:50	100	8.5	6.0	7.7	



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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	ppmv	
DPE-01	8/27/2021	11:02	100	12.5	7.0	93.0	
DPE-01	9/1/2021	12:10	100	12.0	10.0	14.1	
DPE-01	9/7/2021	12:20	100	11.0	10.5	16.2	
DPE-01	9/15/2021	13:40	100	6.0	6.0	15.6	
DPE-01	9/24/2021	12:25	100	4.5	5.0	8.7	
DPE-01	9/30/2021	13:49	100	7.0	5.0	16.7	
DPE-01	10/6/2021	13:36	100	4.5	5.0	22.8	
DPE-01	10/18/2021	10:24	100	1.0	0.5	17.1	
DPE-01	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-01	11/12/2021	14:44	100	16.0	15.0	--	Water in line
DPE-01	11/19/2021	15:06	100	0.0	1.5	--	Water in line
DPE-01	11/24/2021	11:52	100	0.0	0.0	--	Water in line
DPE-01	11/29/2021	14:00	100	0.0	0.0	--	Water in line
DPE-01	12/16/2021	12:05	100	0.0	0.0	5.8	
DPE-01	12/20/2021	14:15	100	0.0	0.0	--	Water in line

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-02	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	8/17/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-02	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-02	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-02	12/20/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-03	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-03	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-03	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-03	8/5/2021	12:30	100	#N/A	5.0	25.2	
DPE-03	8/11/2021	13:00	100	5.0	5.0	4.2	
DPE-03	8/17/2021	11:52	100	0.0	5.0	3.9	

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	ppmv	
DPE-03	8/27/2021	11:02	100	7.5	6.0	--	Water in line
DPE-03	9/1/2021	12:08	100	0.0	0.0	3.5	
DPE-03	9/7/2021	12:18	100	0.0	0.0	2.5	
DPE-03	9/15/2021	13:35	100	0.0	5.0	2.6	
DPE-03	9/24/2021	12:27	100	0.0	4.0	1.8	
DPE-03	9/30/2021	13:52	100	0.0	5.0	3.7	
DPE-03	10/6/2021	13:32	100	0.0	5.0	5.8	
DPE-03	10/18/2021	14:27	100	0.0	0.0	2.6	
DPE-03	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-03	11/12/2021	14:41	100	11.0	15.0	--	Water in line
DPE-03	11/19/2021	15:03	100	3.0	1.0	--	Water in line
DPE-03	11/24/2021	11:50	100	3.0	0.5	--	Water in line
DPE-03	11/29/2021	13:55	100	3.0	3.0	0.7	
DPE-03	12/16/2021	12:05	100	--	0.0	0.1	
DPE-03	12/20/2021	14:18	100	2.0	0.0	--	Water in line

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-04	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-04	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-04	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-04	8/5/2021	12:32	0	0.0	0.0	26.9	Off
DPE-04	8/11/2021	13:05	0	0.0	0.0	13.7	Off
DPE-04	8/17/2021	11:55	0	0.0	0.0	12.1	Off



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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-04	8/27/2021	11:02	0	0.0	0.0	171.0	Off
DPE-04	9/1/2021	12:06	0	0.0	0.0	12.6	Off
DPE-04	9/7/2021	12:16	0	0.0	0.0	14.5	Off
DPE-04	9/15/2021	13:33	0	0.0	0.0	17.3	Off
DPE-04	9/24/2021	12:29	0	0.0	0.0	12.0	Off
DPE-04	9/30/2021	13:54	0	0.0	0.0	11.5	Off
DPE-04	10/6/2021	13:28	0	0.0	0.0	27.2	Off
DPE-04	10/18/2021	14:28	0	0.0	0.0	11.2	
DPE-04	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-04	11/12/2021	14:38	0	0.0	0.0	--	Off
DPE-04	11/19/2021	14:59	0	0.0	0.0	--	Off
DPE-04	11/24/2021	11:53	0	0.0	0.0	--	Off
DPE-04	11/29/2021	14:02	0	0.0	0.0	--	Off
DPE-04	12/16/2021	12:05	0	0.0	0.0	--	Off
DPE-04	12/20/2021	14:19	0	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-05	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-05	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-05	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-05	8/5/2021	#N/A	0	0.0	0.0	21.7	Off
DPE-05	8/11/2021	#N/A	0	0.0	0.0	12.7	Off
DPE-05	8/17/2021	#N/A	0	0.0	0.0	5.1	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-05	8/27/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-05	9/1/2021	#N/A	0	0.0	0.0	9.7	Off
DPE-05	9/7/2021	#N/A	0	0.0	0.0	10.8	Off
DPE-05	9/15/2021	13:50	100	3.0	5.0	3.2	
DPE-05	9/24/2021	12:31	100	3.0	5.0	1.6	
DPE-05	9/30/2021	13:56	100	4.0	5.0	3.1	
DPE-05	10/6/2021	13:40	100	4.5	6.0	36.3	
DPE-05	10/18/2021	14:32	100	2.0	1.0	2.0	
DPE-05	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-05	11/12/2021	14:48	0	0.0	0.0	--	Off
DPE-05	11/19/2021	15:15	0	0.0	0.0	--	Off
DPE-05	11/24/2021	11:54	0	0.0	0.0	--	Off
DPE-05	11/29/2021	14:05	0	0.0	0.0	--	Off
DPE-05	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-05	12/20/2021	14:12	100	2.5	2.0	0.2	

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-06	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-06	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-06	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-06	8/5/2021	12:40	0	0.0	0.0	14.3	Off
DPE-06	8/11/2021	13:05	0	0.0	0.0	6.8	Off
DPE-06	8/17/2021	11:45	0	0.0	0.0	0.0	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	ppmv	
DPE-06	8/27/2021	11:02	0	0.0	0.0	--	Off
DPE-06	9/1/2021	12:16	0	0.0	0.0	3.5	Off
DPE-06	9/7/2021	12:26	0	0.0	0.0	5.6	Off
DPE-06	9/15/2021	13:55	0	0.0	0.0	1.5	Off
DPE-06	9/24/2021	12:33	0	0.0	0.0	3.0	Off
DPE-06	9/30/2021	13:58	0	0.0	0.0	2.8	Off
DPE-06	10/6/2021	13:45	0	0.0	0.0	11.6	Off
DPE-06	10/18/2021	14:33	0	0.0	0.0	2.7	Off
DPE-06	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-06	11/12/2021	14:52	0	0.0	0.0	--	Off
DPE-06	11/19/2021	15:19	0	0.0	0.0	--	Off
DPE-06	11/24/2021	11:55	0	0.0	0.0	--	Off
DPE-06	11/29/2021	14:08	0	0.0	0.0	--	Off
DPE-06	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-06	12/20/2021	14:13	0	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-07	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-07	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-07	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-07	8/5/2021	12:43	100	#N/A	5.5	250.0	
DPE-07	8/11/2021	13:07	100	5.0	5.5	13.5	
DPE-07	8/17/2021	11:59	100	9.0	7.5	0.0	



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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-07	8/27/2021	11:02	100	13.0	7.5	--	Water in line
DPE-07	9/1/2021	12:04	100	0.0	0.0	4.4	
DPE-07	9/7/2021	12:14	100	0.0	0.0	9.4	
DPE-07	9/15/2021	13:30	0	0.0	0.0	9.1	Off, faulted
DPE-07	9/24/2021	12:35	0	0.0	0.0	2.4	Off, faulted
DPE-07	9/30/2021	13:35	0	0.0	0.0	3.1	Off, faulted
DPE-07	10/6/2021	13:24	0	0.0	0.0	18.9	Off, faulted
DPE-07	10/18/2021	14:26	0	0.0	0.0	3.3	Off
DPE-07	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-07	11/12/2021	14:33	0	0.0	0.0	--	Off
DPE-07	11/19/2021	14:53	0	0.0	0.0	--	Off
DPE-07	11/24/2021	11:56	0	0.0	0.0	--	Off
DPE-07	11/29/2021	14:10	0	0.0	0.0	--	Off
DPE-07	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-07	12/20/2021	14:21	0	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-08	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	8/17/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-08	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-08	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-08	12/20/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-09	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	8/17/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-09	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-09	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-09	12/20/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-10	7/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/21/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	7/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/5/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/11/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	8/17/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2.</sup>	Comments
	mm/dd/yy	hh:mm <sup>1.</sup>	% open	in Hg	in Hg	ppmv	
DPE-10	8/27/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/1/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/7/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/15/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	9/30/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/6/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/18/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-10	11/12/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/19/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/24/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	11/29/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	12/16/2021	#N/A	#N/A	#N/A	#N/A	#N/A	Disconnected
DPE-10	12/20/2021	#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 Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-11	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-11	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-11	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-11	8/5/2021	12:47	0	0.0	0.0	94.7	Off
DPE-11	8/11/2021	13:10	0	0.0	0.0	29.2	Off
DPE-11	8/17/2021	12:06	0	0.0	0.0	#N/A	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	ppmv	
DPE-11	8/27/2021	11:02	0	0.0	0.0	#N/A	Off
DPE-11	9/1/2021	11:56	0	0.0	0.0	#N/A	Off
DPE-11	9/7/2021	12:06	0	0.0	0.0	#N/A	Off
DPE-11	9/15/2021	13:16	0	0.0	0.0	#N/A	Off
DPE-11	9/24/2021	12:37	100	0.0	0.0	--	On, gauge broken
DPE-11	9/30/2021	14:01	100	6.5	0.0	72.2	On, gauge broken
DPE-11	10/6/2021	13:06	100	6.5	0.0	97.7	On, gauge broken
DPE-11	10/18/2021	14:19	100	0.0	0.0	25.9	
DPE-11	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-11	11/12/2021	14:21	0	0.0	0.0	--	Off
DPE-11	11/19/2021	14:40	0	0.0	0.0	--	Off
DPE-11	11/24/2021	11:57	0	0.0	0.0	--	Off
DPE-11	11/29/2021	14:12	0	0.0	0.0	--	Off
DPE-11	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-11	12/20/2021	14:00	100	2.5	0.0	7.0	

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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 <sup>5</sup> .	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
DPE-12-R	7/16/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-12-R	7/21/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-12-R	7/30/2021	#N/A	0	0.0	0.0	#N/A	Off
DPE-12-R	8/5/2021	12:49	0	0.0	0.0	71.3	Off
DPE-12-R	8/11/2021	13:10	0	0.0	0.0	50.5	Off
DPE-12-R	8/17/2021	12:00	0	0.0	0.0	24.1	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	ppmv	
DPE-12-R	8/27/2021	11:02	0	0.0	0.0	#N/A	Off
DPE-12-R	9/1/2021	11:50	0	0.0	0.0	15.1	Off
DPE-12-R	9/7/2021	12:00	0	0.0	0.0	12.3	Off
DPE-12-R	9/15/2021	13:10	0	0.0	0.0	10.7	Off
DPE-12-R	9/24/2021	12:39	0	0.0	0.0	7.2	Off
DPE-12-R	9/30/2021	14:03	0	0.0	0.0	14.4	Off
DPE-12-R	10/6/2021	13:00	0	0.0	0.0	6.6	Off
DPE-12-R	10/18/2021	14:10	0	0.0	0.0	5.1	Off
DPE-12-R	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-12-R	11/12/2021	14:14	0:00	0.0	0.0	--	Off
DPE-12-R	11/19/2021	14:30	0	0.0	0.0	--	Off
DPE-12-R	11/24/2021	11:58	0	0.0	0.0	--	Off
DPE-12-R	11/29/2021	14:14	0	0.0	0.0	--	Off
DPE-12-R	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-12-R	12/20/2021	14:22	0	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-13 <sup>3</sup> Wellhead Vacuum	SVE-1 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup>	Comments
	mm/dd/yy	hh:mm <sup>1</sup>	% 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
DPE-13	7/16/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-13	7/21/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-13	7/30/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-13	8/5/2021	12:50	0	#N/A	#N/A	0.0	28.4	Off
DPE-13	8/11/2021	13:10	0	#N/A	#N/A	0.0	10.8	Off
DPE-13	8/17/2021	12:03	0	#N/A	#N/A	0.0	2.9	Off



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

DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-13 <sup>3</sup> Wellhead Vacuum	SVE-1 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% open	in Hg	in Hg	in Hg	ppmv	
DPE-13	8/27/2021	11:02	0	#N/A	#N/A	0.0	0.0	Off
DPE-13	9/1/2021	11:52	0	#N/A	#N/A	0.0	3.1	Off
DPE-13	9/7/2021	12:02	0	#N/A	#N/A	0.0	5.4	Off
DPE-13	9/15/2021	13:12	0	#N/A	#N/A	0.0	4.3	Off
DPE-13	9/24/2021	12:43	0	#N/A	#N/A	0.0	2.2	Off
DPE-13	9/30/2021	14:05	0	#N/A	#N/A	0.0	6.4	Off
DPE-13	10/6/2021	13:02	0	#N/A	#N/A	0.0	2.5	Off
DPE-13	10/18/2021	14:13	0	#N/A	0.0	0.0	1.7	Off
DPE-13	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-13	11/12/2021	14:17	0	#N/A	0.0	0.0	--	Off
DPE-13	11/19/2021	14:33	0	#N/A	0.0	0.0	--	Off
DPE-13	11/24/2021	12:00	0	#N/A	0.0	0.0	--	Off
DPE-13	11/29/2021	14:19	0	#N/A	0.0	0.0	--	Off
DPE-13	12/16/2021	12:10	0	#N/A	0.0	0.0	--	Off
DPE-13	12/20/2021	14:23	0	#N/A	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-14 <sup>4</sup> Wellhead Vacuum	SVE-2 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup>	Comments
	mm/dd/yy	hh:mm <sup>1</sup>	% 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
DPE-14	7/16/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-14	7/21/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-14	7/30/2021	#N/A	0	#N/A	#N/A	0.0	0.0	Off
DPE-14	8/5/2021	12:52	0	#N/A	#N/A	0.0	20.1	Off
DPE-14	8/11/2021	13:10	0	#N/A	#N/A	0.0	6.4	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	DPE-14 <sup>4</sup> Wellhead Vacuum	SVE-2 Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup>	Comments
	mm/dd/yy	hh:mm <sup>1</sup>	% open	in Hg	in Hg	in Hg	ppmv	
DPE-14	8/17/2021	12:05	0	#N/A	#N/A	0.0	0.0	Off
DPE-14	8/27/2021	11:02	0	#N/A	#N/A	0.0	#N/A	Off
DPE-14	9/1/2021	11:54	0	#N/A	#N/A	0.0	1.9	Off
DPE-14	9/7/2021	12:04	0	#N/A	#N/A	0.0	1.9	Off
DPE-14	9/15/2021	13:14	0	#N/A	#N/A	0.0	1.7	Off
DPE-14	9/24/2021	12:45	0	#N/A	#N/A	0.0	1.1	Off
DPE-14	9/30/2021	14:07	0	#N/A	#N/A	0.0	4.4	Off
DPE-14	10/6/2021	13:04	0	#N/A	#N/A	0.0	1.7	Off
DPE-14	10/18/2021	14:16	0	#N/A	0.0	0.0	1.1	Off
DPE-14	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-14	11/12/2021	14:19	0	#N/A	0.0	0.0	--	Off
DPE-14	11/19/2021	14:36	0	#N/A	0.0	0.0	--	Off
DPE-14	11/24/2021	12:01	0	#N/A	0.0	0.0	--	Off
DPE-14	11/29/2021	14:20	0	#N/A	0.0	0.0	--	Off
DPE-14	12/16/2021	12:10	0	#N/A	0.0	0.0	--	Off
DPE-14	12/20/2021	14:24	0	#N/A	0.0	0.0	--	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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-15	7/16/2021	14:12	75	3.0	3.0	8.4	
DPE-15	7/21/2021	14:12	75	2.0	1.0	3.1	
DPE-15	7/30/2021	10:55	75	2.0	2.0	4.7	
DPE-15	8/5/2021	12:53	25	#N/A	1.5	14.7	
DPE-15	8/11/2021	13:13	25	3.0	0.0	3.8	
DPE-15	8/17/2021	12:10	25	4.5	0.5	0.9	
DPE-15	8/27/2021	11:02	25	5.0	0.0	6.6	
DPE-15	9/1/2021	11:58	25	5.0	0.5	4.5	
DPE-15	9/7/2021	12:08	25	5.0	1.0	2.5	
DPE-15	9/15/2021	13:26	25	3.0	0.0	3.3	
DPE-15	9/24/2021	12:47	25	4.0	0.0	0.7	
DPE-15	9/30/2021	14:09	25	4.0	1.0	3.1	
DPE-15	10/6/2021	13:10	25	3.5	0.0	25.9	
DPE-15	10/18/2021	14:21	100	2.0	0.0	5.1	
DPE-15	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-15	11/12/2021	14:23	0	6.0	0.0	12.3	Off
DPE-15	11/19/2021	14:43	0	0.0	0.0	--	Off
DPE-15	11/24/2021	12:12	0	0.0	0.0	--	Off
DPE-15	11/29/2021	14:17	0	0.0	0.0	--	Off
DPE-15	12/16/2021	12:10	0	0.0	0.0	--	Off
DPE-15	12/20/2021	14:14	0	0.0	0.0	1.1	Off

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-16	7/16/2021	14:20	100	2.5	2.0	3.9	
DPE-16	7/21/2021	14:10	100	2.0	0.5	2.9	
DPE-16	7/30/2021	10:45	100	2.5	2.0	4.2	
DPE-16	8/5/2021	12:55	100	#N/A	2.0	12.3	
DPE-16	8/11/2021	13:15	100	2.0	2.0	4.8	
DPE-16	8/17/2021	12:12	100	2.0	5.0	0.1	
DPE-16	8/27/2021	11:02	100	1.0	5.0	48.4	
DPE-16	9/1/2021	12:00	100	1.0	8.0	5.3	
DPE-16	9/7/2021	12:10	100	1.0	8.0	4.0	
DPE-16	9/15/2021	13:24	100	1.0	4.0	4.1	
DPE-16	9/24/2021	12:49	100	1.0	1.0	6.7	
DPE-16	9/30/2021	14:11	100	1.0	3.0	9.0	
DPE-16	10/6/2021	13:13	100	1.0	3.0	22.5	
DPE-16	10/18/2021	14:22	100	0.0	0.0	6.8	
DPE-16	10/25/2021	14:16	100	#N/A	6.0	#N/A	System shut down
DPE-16	11/12/2021	14:25	100	0.0	15.0	12.4	
DPE-16	11/19/2021	14:48	100	0.0	0.0	1.9	
DPE-16	11/24/2021	11:40	100	0.0	0.0	0.9	
DPE-16	11/29/2021	13:45	100	0.0	0.0	1.6	
DPE-16	12/16/2021	12:12	100	0.0	0.0	0.6	
DPE-16	12/20/2021	14:08	100	0.0	0.0	1.3	

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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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-17	7/16/2021	14:24	100	4.0	5.0	8.0	On
DPE-17	7/21/2021	14:10	100	4.0	5.0	24.5	
DPE-17	7/30/2021	10:55	100	5.0	5.0	14.0	
DPE-17	8/5/2021	12:56	100	#N/A	5.0	40.9	
DPE-17	8/11/2021	13:18	100	5.0	5.0	20.1	
DPE-17	8/17/2021	12:14	100	7.0	9.5	17.3	
DPE-17	8/27/2021	11:02	100	12.0	10.0	364.1	
DPE-17	9/1/2021	12:02	100	10.0	12.0	14.3	
DPE-17	9/7/2021	12:12	100	10.0	12.0	27.6	
DPE-17	9/15/2021	13:28	100	5.0	7.5	24.1	
DPE-17	9/24/2021	12:51	100	5.0	6.0	15.5	
DPE-17	9/30/2021	14:13	100	5.5	7.0	58.3	
DPE-17	10/6/2021	13:16	100	5.0	7.0	78.5	
DPE-17	10/18/2021	14:25	100	0.5	2.0	10.3	
DPE-17	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-17	11/12/2021	14:27	100	16.0	18.0	32.2	
DPE-17	11/19/2021	14:50	100	1.0	3.0	6.9	
DPE-17	11/24/2021	11:44	100	1.0	3.0	2.9	
DPE-17	11/29/2021	13:50	100	2.0	3.0	3.2	
DPE-17	12/16/2021	12:15	100	--	2.5	0.0	
DPE-17	12/20/2021	14:10	100	0.0	2.0	1.2	



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

DPE Well ID	Date	Time	Manifold SVE Valve Position	Wellhead Vacuum	Manifold Vacuum	VOCs Concentration <sup>2</sup> .	Comments
	mm/dd/yy	hh:mm <sup>1</sup> .	% 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
DPE-18	7/16/2021	14:27	100	3.0	4.3	4.8	On
DPE-18	7/21/2021	14:10	100	2.0	4.0	9.2	
DPE-18	7/30/2021	10:55	100	2.0	4.5	10.2	
DPE-18	8/5/2021	12:58	100	#N/A	5.0	30.7	
DPE-18	8/11/2021	13:20	100	3.5	5.0	11.3	
DPE-18	8/17/2021	11:48	100	5.0	6.0	3.9	
DPE-18	8/27/2021	11:02	100	--	6.5	--	Water in line
DPE-18	9/1/2021	12:12	100	--	8.5	7.9	Broken well gauge
DPE-18	9/7/2021	12:22	100	--	9.0	11.6	Broken well gauge
DPE-18	9/15/2021	13:48	100	--	5.5	10.6	Broken well gauge
DPE-18	9/24/2021	12:53	100	--	4.5	4.8	Broken well gauge
DPE-18	9/30/2021	14:16	100	--	4.5	11.8	Broken well gauge
DPE-18	10/6/2021	13:20	100	--	5.0	52.8	Broken well gauge
DPE-18	10/18/2021	14:30	100	--	1.0	5.2	
DPE-18	10/25/2021	#N/A	#N/A	#N/A	#N/A	#N/A	System shut down
DPE-18	11/12/2021	14:30	100	16.0	15.0	--	Water in line
DPE-18	11/19/2021	15:10	0	4.0	0.0	1.6	
DPE-18	11/24/2021	12:10	0	4.0	0.0	--	Water in line
DPE-18	11/29/2021	14:15	0	3.0	0.0	--	Water in line
DPE-18	12/16/2021	12:15	100	--	1.0	0.0	
DPE-18	12/20/2021	14:04	100	2.0	0.0	0.7	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-1	12.96	11/28/2017	9:22	n.a.	DPE-1	17.8	6.22	--	6.74	n.a.	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	1.29	DPE system testing
PZ-1	12.96	12/1/2017	15:41	n.a.	DPE-1	17.8	8.85	--	4.11	2.63	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	3.07	
PZ-1	12.96	12/13/2017	11:51	114.0	DPE-1	17.8	9.48	--	3.48	3.26	
PZ-1	12.96	12/13/2017	15:50	114.0	DPE-1	17.8	9.88	--	3.08	3.66	
PZ-1	12.96	12/14/2017	14:12	116.8	DPE-1	17.8	10.34	--	2.62	4.12	
PZ-1	12.96	12/20/2017	15:16	161.4	DPE-1	17.8	9.04	--	3.92	2.82	
PZ-1	12.96	12/27/2017	12:40	23.8	DPE-1	17.8	9.02	--	3.94	2.80	
PZ-1	12.96	1/5/2018	15:52	556.2	DPE-1	17.8	9.13	--	3.83	2.91	
PZ-1	12.96	1/9/2018	15:31	87.9	DPE-1	17.8	8.75	--	4.21	2.53	
PZ-1	12.96	1/18/2018	13:40	99.0	DPE-1	17.8	8.54	--	4.42	2.32	
PZ-1	12.96	1/24/2018	14:48	65.0	DPE-1	17.8	8.13	--	4.83	1.91	
PZ-1	12.96	2/1/2018	9:36	117.0	DPE-1	17.8	9.09	--	3.87	2.87	
PZ-1	12.96	2/8/2018	9:27	90.1	DPE-1	17.8	9.14	--	3.82	2.92	
PZ-1	12.96	2/13/2018	14:52	n.a.	DPE-1	17.8	9.31	--	3.65	3.09	SVE off
PZ-1	12.96	2/20/2018	14:41	92.7	DPE-1	17.8	9.50	--	3.46	3.28	
PZ-1	12.96	2/28/2018	15:47	106.2	DPE-1	17.8	9.59	--	3.37	3.37	
PZ-1	12.96	3/8/2018	15:05	122.2	DPE-1	17.8	9.31	--	3.65	3.09	
PZ-1	12.96	3/14/2018	15:01	157.2	DPE-1	17.8	9.11	--	3.85	2.89	
PZ-1	12.96	5/29/2018	15:14	2.9	DPE-1	17.8	9.19	--	3.77	2.97	
PZ-1	12.96	6/18/2018	14:59	0.0	DPE-1	17.8	9.61	--	3.35	3.39	SVE off
PZ-1	12.96	7/19/2018	16:43	93.1	DPE-1	17.8	8.90	--	4.06	2.68	
PZ-1	12.96	8/7/2018	11:22	0.0	DPE-1	17.8	6.66	--	6.30	0.44	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	2.76	
PZ-1	12.96	11/13/2018	15:53	24.1	DPE-1	17.8	9.39	--	3.57	3.17	
PZ-1	12.96	1/29/2019	13:47	0.0	DPE-1	17.8	9.07	--	3.89	2.85	
PZ-1	12.96	2/21/2019	11:40	0.0	DPE-1	17.8	8.90	--	4.06	2.68	
PZ-1	12.96	3/14/2019	13:36	0.0	DPE-1	17.8	9.11	--	3.85	2.89	
PZ-1	12.96	4/11/2019	13:13	0.0	DPE-1	17.8	8.42	--	4.54	2.20	
PZ-1	12.96	5/9/2019	14:45	0.0	DPE-1	17.8	8.99	--	3.97	2.77	
PZ-1	12.96	6/6/2019	13:56	0.0	DPE-1	17.8	9.12	--	3.84	2.90	
PZ-1	12.96	8/1/2019	10:58	0.0	DPE-1	17.8	7.12	--	5.84	0.90	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	0.98	
PZ-1	12.96	8/21/2019	11:24	0.0	DPE-1	17.8	8.27	--	4.69	2.05	
PZ-1	12.96	9/24/2019	9:59	n.m.	DPE-1	17.8	9.35	--	3.61	3.13	
PZ-1	12.96	2/13/2020	n.g.	n.m.	DPE-1	17.8	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-1	12.96	2/24/2020	11:56	n.m.	DPE-1	17.8	9.22	--	3.74	3.00	
PZ-1	12.96	2/28/2020	14:20	-0.9	DPE-1	17.8	9.52	--	3.44	3.30	
PZ-1	12.96	3/18/2020	11:55	1.0	DPE-1	17.8	9.09	--	3.87	2.87	
PZ-1	12.96	4/17/2020	10:37	0.7	DPE-1	17.8	9.42	--	3.54	3.20	
PZ-1	12.96	5/19/2020	15:20	0.6	DPE-1	17.8	8.74	--	4.22	2.52	
PZ-1	12.96	8/19/2020	13:02	n.m.	DPE-1	17.8	9.42	--	3.54	3.20	
PZ-1	12.96	9/2/2020	10:46	n.m.	DPE-1	17.8	9.43	--	3.53	3.21	
PZ-1	12.96	7/16/2021	10:14	0.6	DPE-1	17.8	7.52	--	5.44	1.30	
PZ-1	12.96	8/11/2021	12:30	0.9	DPE-1	17.8	8.42	--	4.54	2.20	
PZ-1	12.96	9/15/2021	12:20	2.3	DPE-1	17.8	9.03	--	3.93	2.81	
PZ-1	12.96	10/6/2021	13:43	3.2	DPE-1	17.8	8.91	--	4.05	2.69	
PZ-1	12.96	11/19/2021	14:16	0.5	DPE-1	17.8	7.27	--	5.69	1.05	
PZ-1	12.96	12/16/2021	11:00	0.0	DPE-1	17.8	7.21	--	5.75	0.99	
PZ-2	13.18	11/28/2017	9:20	n.a.	DPE-1	8	6.24	--	6.94	n.a.	DPE system baseline event before system startup - System off
PZ-2	13.18	11/30/2017	15:46	n.a.	DPE-1	8	7.84	--	5.34	1.60	DPE system testing
PZ-2	13.18	12/1/2017	15:40	n.a.	DPE-1	8	9.36	--	3.82	3.12	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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-2	13.18	12/5/2017	13:09	n.a.	DPE-1	8	10.25	--	2.93	4.01	
PZ-2	13.18	12/13/2017	11:46	235.0	DPE-1	8	10.19	--	2.99	3.95	
PZ-2	13.18	12/13/2017	15:41	288.5	DPE-1	8	9.85	--	3.33	3.61	
PZ-2	13.18	12/14/2017	14:05	279.4	DPE-1	8	10.25	--	2.93	4.01	
PZ-2	13.18	12/20/2017	15:13	377.5	DPE-1	8	9.18	--	4.00	2.94	
PZ-2	13.18	12/27/2017	12:45	356.6	DPE-1	8	10.21	--	2.97	3.97	
PZ-2	13.18	1/5/2018	15:48	344.1	DPE-1	8	9.52	--	3.66	3.28	
PZ-2	13.18	1/9/2018	15:28	168.1	DPE-1	8	9.47	--	3.71	3.23	
PZ-2	13.18	1/18/2018	13:36	218.7	DPE-1	8	9.19	--	3.99	2.95	
PZ-2	13.18	1/24/2018	14:42	416.6	DPE-1	8	8.82	--	4.36	2.58	
PZ-2	13.18	2/1/2018	9:31	269.6	DPE-1	8	9.81	--	3.37	3.57	
PZ-2	13.18	2/8/2018	9:21	285.9	DPE-1	8	9.50	--	3.68	3.26	
PZ-2	13.18	2/13/2018	14:48	n.a.	DPE-1	8	10.22	--	2.96	3.98	SVE off
PZ-2	13.18	2/20/2018	14:37	229.8	DPE-1	8	9.51	--	3.67	3.27	
PZ-2	13.18	2/28/2018	15:45	273.0	DPE-1	8	9.88	--	3.30	3.64	
PZ-2	13.18	3/8/2018	15:07	364.4	DPE-1	8	9.40	--	3.78	3.16	
PZ-2	13.18	3/14/2018	15:03	333.8	DPE-1	8	9.12	--	4.06	2.88	
PZ-2	13.18	5/29/2018	15:03	1.0	DPE-1	8	9.99	--	3.19	3.75	
PZ-2	13.18	6/18/2018	14:56	0.0	DPE-1	8	10.40	--	2.78	4.16	SVE off
PZ-2	13.18	7/19/2018	16:42	339.9	DPE-1	8	9.39	--	3.79	3.15	
PZ-2	13.18	8/7/2018	11:24	2.8	DPE-1	8	7.91	--	5.27	1.67	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-2	13.18	10/26/2018	15:21	10.3	DPE-1	8	9.31	--	3.87	3.07	
PZ-2	13.18	11/13/2018	16:02	68.5	DPE-1	8	9.73	--	3.45	3.49	
PZ-2	13.18	1/29/2019	14:15	0.0	DPE-1	8	9.25	--	3.93	3.01	
PZ-2	13.18	2/21/2019	11:53	0.0	DPE-1	8	9.20	--	3.98	2.96	
PZ-2	13.18	3/14/2019	13:38	0.0	DPE-1	8	9.18	--	4.00	2.94	
PZ-2	13.18	4/11/2019	13:21	0.0	DPE-1	8	9.95	--	3.23	3.71	
PZ-2	13.18	5/9/2019	14:50	0.0	DPE-1	8	9.24	--	3.94	3.00	
PZ-2	13.18	6/6/2019	13:58	0.0	DPE-1	8	9.45	--	3.73	3.21	
PZ-2	13.18	8/1/2019	11:01	0.0	DPE-1	8	7.37	--	5.81	1.13	DPE system expansion baseline event before system startup - System off
PZ-2	13.18	8/15/2019	9:47	0.0	DPE-1	8	7.44	--	5.74	1.20	
PZ-2	13.18	8/21/2019	11:26	0.0	DPE-1	8	8.50	--	4.68	2.26	
PZ-2	13.18	9/24/2019	9:52	n.m.	DPE-1	8	9.67	--	3.51	3.43	
PZ-2	13.18	2/13/2020	n.g.	n.m.	DPE-1	8	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-2	13.18	2/24/2020	11:38	n.m.	DPE-1	8	9.38	--	3.80	3.14	
PZ-2	13.18	2/28/2020	14:22	-2.3	DPE-1	8	9.65	--	3.53	3.41	
PZ-2	13.18	3/18/2020	11:50	2.0	DPE-1	8	9.16	--	4.02	2.92	
PZ-2	13.18	4/17/2020	10:24	1.6	DPE-1	8	9.63	--	3.55	3.39	
PZ-2	13.18	5/19/2020	15:05	1.4	DPE-1	8	8.72	--	4.46	2.48	
PZ-2	13.18	8/19/2020	12:53	n.m.	DPE-1	8	9.75	--	3.43	3.51	
PZ-2	13.18	9/2/2020	10:18	n.m.	DPE-1	8	9.74	--	3.44	3.50	
PZ-2	13.18	7/16/2021	10:23	2.1	DPE-1	8	7.69	7.67	5.49	1.45	Evidence of LNAPL on probe and within bailer. 0.01 feet of LNAPL observed within bailer. Oil absorbent sock placed in well.
PZ-2	13.18	7/21/2021	15:30	n.m.	DPE-1	8	n.g.	n.g.	n.g.	n.g.	Sock inspected. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	7/23/2021	10:45	n.m.	DPE-1	8	7.74	--	5.44	1.50	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	7/26/2021	11:15	n.m.	DPE-1	8	7.71	--	5.47	1.47	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	7/28/2021	12:30	n.m.	DPE-1	8	n.g.	n.g.	n.g.	n.g.	Sock inspected. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	7/30/2021	11:30	n.m.	DPE-1	8	7.79	--	5.39	1.55	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	8/2/2021	13:30	n.m.	DPE-1	8	8.42	--	4.76	2.18	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-2	13.18	8/5/2021	15:00	n.m.	DPE-1	8	8.65	--	4.53	2.41	No evidence of LNAPL. Sock appeared with minimal discoloration. Sock replaced.
PZ-2	13.18	8/9/2021	11:45	n.m.	DPE-1	8	8.32	--	4.86	2.08	No evidence of LNAPL. Sock removed.
PZ-2	13.18	8/11/2021	12:35	0.0	DPE-1	8	8.65	--	4.53	2.41	No evidence of LNAPL.
PZ-2	13.18	8/13/2021	10:30	n.m.	DPE-1	8	n.g	n.g	n.g.	n.g.	No evidence of LNAPL.
PZ-2	13.18	8/16/2021	13:30	n.m.	DPE-1	8	7.50	--	5.68	1.26	No evidence of LNAPL.
PZ-2	13.18	8/27/2021	13:00	n.m.	DPE-1	8	n.g	n.g	n.g.	n.g.	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Oil absorbent sock placed in well.
PZ-2	13.18	8/30/2021	12:30	n.m.	DPE-1	8	5.21	--	7.97	-1.03	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
PZ-2	13.18	9/1/2021	13:00	n.m.	DPE-1	8	8.74	--	4.44	2.50	No evidence of LNAPL.
PZ-2	13.18	9/7/2021	13:00	n.m.	DPE-1	8	8.22	--	4.96	1.98	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Oil absorbent sock placed in well.
PZ-2	13.18	9/10/2021	12:15	n.m.	DPE-1	8	8.00	--	5.18	1.76	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	9/13/2021	13:15	n.m.	DPE-1	8	8.00	--	5.18	1.76	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	9/15/2021	12:23	7.211	DPE-1	8	8.83	--	4.35	2.59	No evidence of LNAPL. Sock appeared with no discoloration. Sock left in place.
PZ-2	13.18	9/17/2021	11:40	n.m.	DPE-1	8	8.42	--	4.76	2.18	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
PZ-2	13.18	9/24/2021	13:30	n.m.	DPE-1	8	8.57	--	4.61	2.33	No evidence of LNAPL.
PZ-2	13.18	9/30/2021	15:15	n.m.	DPE-1	8	7.34	--	5.84	1.10	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Oil absorbent sock placed in well.
PZ-2	13.18	10/6/2021	13:35	6.7	DPE-1	8	8.70	--	4.48	2.46	No measurable LNAPL. No LNAPL observed on probe. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	10/8/2021	11:00	n.m.	DPE-1	8	8.12	--	5.06	1.88	No evidence of LNAPL. Sock appeared with no discoloration. Sock left in place
PZ-2	13.18	10/11/2021	11:30	n.m.	DPE-1	8	8.25	--	4.93	2.01	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	10/13/2021	9:30	n.m.	DPE-1	8	7.21	--	5.97	0.97	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
PZ-2	13.18	10/18/2021	15:48	n.m.	DPE-1	8	8.70	--	4.48	2.46	No evidence of LNAPL.
PZ-2	13.18	10/20/2021	12:20	n.m.	DPE-1	8	8.80	--	4.38	2.56	No evidence of LNAPL.
PZ-2	13.18	10/25/2021	15:40	n.m.	DPE-1	8	7.65	--	5.53	1.41	No evidence of LNAPL.
PZ-2	13.18	11/5/2021	13:30	n.m.	DPE-1	8	6.10	--	7.08	-0.14	No evidence of LNAPL.
PZ-2	13.18	11/10/2021	12:55	n.m.	DPE-1	8	5.94	--	7.24	-0.30	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Oil absorbent sock placed in well.
PZ-2	13.18	11/12/2021	13:00	n.m.	DPE-1	8	n.g.	n.g.	n.g.	n.g.	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
PZ-2	13.18	11/15/2021	11:50	n.m.	DPE-1	8	6.00	--	7.18	-0.24	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
PZ-2	13.18	11/17/2021	15:10	n.m.	DPE-1	8	6.68	--	6.50	0.44	No evidence of LNAPL.
PZ-2	13.18	11/19/2021	14:19	0.7	DPE-1	8	7.27	--	5.91	1.03	No evidence of LNAPL.
PZ-2	13.18	11/22/2021	13:50	n.m.	DPE-1	8	7.05	--	6.13	0.81	No evidence of LNAPL.
PZ-2	13.18	11/24/2021	12:55	n.m.	DPE-1	8	7.29	--	5.89	1.05	No evidence of LNAPL.
PZ-2	13.18	11/29/2021	14:55	n.m.	DPE-1	8	7.34	--	5.84	1.10	No evidence of LNAPL.
PZ-2	13.18	12/1/2021	13:42	n.m.	DPE-1	8	7.60	--	5.58	1.36	No evidence of LNAPL.
PZ-2	13.18	12/3/2021	11:00	n.m.	DPE-1	8	7.69	--	5.49	1.45	No evidence of LNAPL.
PZ-2	13.18	12/6/2021	--	n.m.	DPE-1	8	8.69	--	4.49	2.45	No evidence of LNAPL.
PZ-2	13.18	12/8/2021	12:54	n.m.	DPE-1	8	7.40	--	5.78	1.16	No evidence of LNAPL.
PZ-2	13.18	12/16/2021	11:08	0.0	DPE-1	8	7.35	--	5.83	1.11	No evidence of LNAPL.
PZ-2	13.18	12/20/2021	15:25	n.m.	DPE-1	8	6.99	--	6.19	0.75	No evidence of LNAPL.
PZ-2	13.18	12/23/2021	14:30	n.m.	DPE-1	8	6.62	--	6.56	0.38	No evidence of LNAPL.
PZ-4	14.16	11/28/2017	8:56	n.m.	DPE-5 & DPE-6	15	7.48	--	6.68	n.a.	DPE system baseline event before system startup - System off
PZ-4	14.16	11/30/2017	15:36	n.m.	DPE-5 & DPE-6	15	8.57	--	5.59	1.09	DPE system testing
PZ-4	14.16	12/1/2017	15:46	n.m.	DPE-5 & DPE-6	15	9.86	--	4.30	2.38	DPE system startup (groundwater extraction only)
PZ-4	14.16	12/5/2017	13:21	n.m.	DPE-5 & DPE-6	15	10.39	--	3.77	2.91	
PZ-4	14.16	12/13/2017	11:55	n.m.	DPE-5 & DPE-6	15	11.10	--	3.06	3.62	
PZ-4	14.16	12/13/2017	14:10	n.m.	DPE-5 & DPE-6	15	11.04	--	3.12	3.56	
PZ-4	14.16	12/14/2017	14:27	n.m.	DPE-5 & DPE-6	15	11.01	--	3.15	3.53	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-4	14.16	12/20/2017	15:19	n.m.	DPE-5 & DPE-6	15	9.51	--	4.65	2.03	
PZ-4	14.16	12/27/2017	n.a.	n.m.	DPE-5 & DPE-6	15	n.g.	n.g.	n.g.	n.g.	Not Gauged
PZ-4	14.16	1/5/2018	15:55	n.m.	DPE-5 & DPE-6	15	10.29	--	3.87	2.81	
PZ-4	14.16	1/9/2018	15:35	n.m.	DPE-5 & DPE-6	15	9.85	--	4.31	2.37	
PZ-4	14.16	1/18/2018	13:51	n.m.	DPE-5 & DPE-6	15	9.79	--	4.37	2.31	
PZ-4	14.16	1/24/2018	14:59	n.m.	DPE-5 & DPE-6	15	8.82	--	5.34	1.34	
PZ-4	14.16	2/1/2018	9:45	n.m.	DPE-5 & DPE-6	15	10.51	--	3.65	3.03	
PZ-4	14.16	2/8/2018	9:31	n.m.	DPE-5 & DPE-6	15	10.62	--	3.54	3.14	
PZ-4	14.16	2/13/2018	15:01	n.m.	DPE-5 & DPE-6	15	10.33	--	3.83	2.85	SVE off
PZ-4	14.16	2/20/2018	14:53	n.m.	DPE-5 & DPE-6	15	10.59	--	3.57	3.11	
PZ-4	14.16	2/28/2018	16:00	n.m.	DPE-5 & DPE-6	15	10.94	--	3.22	3.46	
PZ-4	14.16	3/8/2018	15:02	n.m.	DPE-5 & DPE-6	15	10.77	--	3.39	3.29	
PZ-4	14.16	3/14/2018	14:57	n.m.	DPE-5 & DPE-6	15	10.39	--	3.77	2.91	
PZ-4	14.16	5/29/2018	14:54	n.m.	DPE-5 & DPE-6	15	9.37	--	4.79	1.89	
PZ-4	14.16	6/18/2018	14:53	n.m.	DPE-5 & DPE-6	15	10.50	--	3.66	3.02	SVE off
PZ-4	14.16	7/19/2018	16:37	n.m.	DPE-5 & DPE-6	15	9.15	--	5.01	1.67	
PZ-4	14.16	8/7/2018	11:19	n.m.	DPE-5 & DPE-6	15	8.88	--	5.28	1.40	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-4	14.16	10/26/2018	15:13	n.m.	DPE-5 & DPE-6	15	10.21	--	3.95	2.73	
PZ-4	14.16	11/13/2018	15:50	n.m.	DPE-5 & DPE-6	15	10.68	--	3.48	3.20	
PZ-4	14.16	1/29/2019	14:10	n.m.	DPE-5 & DPE-6	15	9.83	--	4.33	2.35	
PZ-4	14.16	2/21/2019	11:37	n.m.	DPE-5 & DPE-6	15	9.96	--	4.20	2.48	
PZ-4	14.16	3/14/2019	13:34	n.m.	DPE-5 & DPE-6	15	9.88	--	4.28	2.40	
PZ-4	14.16	4/11/2019	13:11	n.m.	DPE-5 & DPE-6	15	8.99	--	5.17	1.51	
PZ-4	14.16	5/9/2019	14:39	n.m.	DPE-5 & DPE-6	15	10.24	--	3.92	2.76	
PZ-4	14.16	6/6/2019	13:52	n.m.	DPE-5 & DPE-6	15	10.26	--	3.90	2.78	
PZ-4	14.16	8/1/2019	11:03	n.m.	DPE-5 & DPE-6	15	8.37	--	5.79	0.89	DPE system expansion baseline event before system startup - System off
PZ-4	14.16	8/15/2019	9:36	n.m.	DPE-5 & DPE-6	15	8.47	--	5.69	0.99	
PZ-4	14.16	8/21/2019	11:17	n.m.	DPE-5 & DPE-6	15	9.09	--	5.07	1.61	
PZ-4	14.16	9/24/2019	9:39	n.m.	DPE-5 & DPE-6	15	10.49	--	3.67	3.01	
PZ-4	14.16	2/13/2020	n.g.	n.m.	DPE-5 & DPE-6	15	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-4	14.16	2/24/2020	12:01	n.m.	DPE-5 & DPE-6	15	10.55	--	3.61	3.07	
PZ-4	14.16	2/28/2020	13:58	-0.4	DPE-5 & DPE-6	15	10.74	--	3.42	3.26	
PZ-4	14.16	3/18/2020	12:31	0.0	DPE-5 & DPE-6	15	10.45	--	3.71	2.97	
PZ-4	14.16	4/17/2020	10:29	0.1	DPE-5 & DPE-6	15	10.79	--	3.37	3.31	
PZ-4	14.16	5/19/2020	15:15	0.7	DPE-5 & DPE-6	15	10.33	--	3.83	2.85	
PZ-4	14.16	8/19/2020	13:14	n.m.	DPE-5 & DPE-6	15	10.74	--	3.42	3.26	
PZ-4	14.16	9/2/2020	10:38	n.m.	DPE-5 & DPE-6	15	10.76	--	3.40	3.28	
PZ-4	14.16	7/16/2021	10:19	0.0	DPE-5 & DPE-6	15	8.66	--	5.50	1.18	
PZ-4	14.16	8/11/2021	12:40	0.0	DPE-5 & DPE-6	15	9.06	--	5.10	1.58	
PZ-4	14.16	9/15/2021	12:56	0.3	DPE-5 & DPE-6	15	10.55	--	3.61	3.07	
PZ-4	14.16	10/6/2021	13:20	0.8	DPE-5 & DPE-6	15	10.29	--	3.87	2.81	
PZ-4	14.16	11/19/2021	14:07	0.0	DPE-5 & DPE-6	15	8.02	--	6.14	0.54	
PZ-4	14.16	12/16/2021	11:15	0.0	DPE-5 & DPE-6	15	7.79	--	6.37	0.31	
PZ-5	12.84	11/28/2017	9:31	n.m.	DPE-7	15	5.51	--	7.33	n.a.	DPE system baseline event before system startup - System off
PZ-5	12.84	11/30/2017	16:00	n.m.	DPE-7	15	6.23	--	6.61	0.72	DPE system testing
PZ-5	12.84	12/1/2017	15:38	n.m.	DPE-7	15	6.38	--	6.46	0.87	DPE system startup (groundwater extraction only)
PZ-5	12.84	12/5/2017	13:02	n.m.	DPE-7	15	8.75	--	4.09	3.24	
PZ-5	12.84	12/13/2017	11:41	n.m.	DPE-7	15	8.85	--	3.99	3.34	
PZ-5	12.84	12/13/2017	15:33	n.m.	DPE-7	15	8.86	--	3.98	3.35	
PZ-5	12.84	12/14/2017	13:39	n.m.	DPE-7	15	9.10	--	3.74	3.59	
PZ-5	12.84	12/20/2017	15:01	n.m.	DPE-7	15	8.71	--	4.13	3.20	
PZ-5	12.84	12/27/2017	12:55	n.m.	DPE-7	15	10.35	--	2.49	4.84	
PZ-5	12.84	1/5/2018	15:45	n.m.	DPE-7	15	8.72	--	4.12	3.21	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-5	12.84	1/9/2018	15:25	n.m.	DPE-7	15	8.63	--	4.21	3.12	
PZ-5	12.84	1/18/2018	13:30	n.m.	DPE-7	15	7.16	--	5.68	1.65	
PZ-5	12.84	1/24/2018	14:34	n.m.	DPE-7	15	8.75	--	4.09	3.24	
PZ-5	12.84	2/1/2018	9:35	n.m.	DPE-7	15	8.69	--	4.15	3.18	
PZ-5	12.84	2/8/2018	9:00	n.m.	DPE-7	15	7.15	--	5.69	1.64	
PZ-5	12.84	2/13/2018	14:56	n.m.	DPE-7	15	7.35	--	5.49	1.84	SVE off
PZ-5	12.84	2/20/2018	14:45	n.m.	DPE-7	15	9.45	--	3.39	3.94	
PZ-5	12.84	2/28/2018	15:38	n.m.	DPE-7	15	8.62	--	4.22	3.11	
PZ-5	12.84	3/8/2018	15:18	n.m.	DPE-7	15	7.90	--	4.94	2.39	
PZ-5	12.84	3/14/2018	15:08	n.m.	DPE-7	15	7.45	--	5.39	1.94	DPE-7 off
PZ-5	12.84	5/29/2018	15:31	n.m.	DPE-7	15	8.84	--	4.00	3.33	
PZ-5	12.84	6/18/2018	15:06	n.m.	DPE-7	15	10.05	--	2.79	4.54	SVE off
PZ-5	12.84	7/19/2018	16:48	n.m.	DPE-7	15	8.21	--	4.63	2.70	
PZ-5	12.84	8/7/2018	11:29	n.m.	DPE-7	15	8.35	--	4.49	2.84	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-5	12.84	10/26/2018	15:33	n.m.	DPE-7	15	6.49	--	6.35	0.98	
PZ-5	12.84	11/13/2018	16:00	n.m.	DPE-7	15	8.21	--	4.63	2.70	
PZ-5	12.84	1/29/2019	14:00	n.m.	DPE-7	15	6.05	--	6.79	0.54	
PZ-5	12.84	2/21/2019	11:47	n.m.	DPE-7	15	5.61	--	7.23	0.10	
PZ-5	12.84	3/14/2019	13:46	n.m.	DPE-7	15	6.18	--	6.66	0.67	
PZ-5	12.84	4/11/2019	13:28	n.m.	DPE-7	15	6.08	--	6.76	0.57	
PZ-5	12.84	5/9/2019	15:00	n.m.	DPE-7	15	7.52	--	5.32	2.01	
PZ-5	12.84	6/6/2019	14:03	n.m.	DPE-7	15	8.34	--	4.50	2.83	
PZ-5	12.84	8/1/2019	11:07	n.m.	DPE-7	15	7.91	--	4.93	2.40	DPE system expansion baseline event before system startup - System off
PZ-5	12.84	8/15/2019	9:51	n.m.	DPE-7	15	7.89	--	4.95	2.38	
PZ-5	12.84	8/21/2019	11:30	n.m.	DPE-7	15	7.89	--	4.95	2.38	
PZ-5	12.84	9/24/2019	9:57	n.m.	DPE-7	15	9.47	--	3.37	3.96	
PZ-5	12.84	2/13/2020	n.g.	n.m.	DPE-7	15	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-5	12.84	2/24/2020	11:16	n.m.	DPE-7	15	8.04	--	4.80	2.53	
PZ-5	12.84	2/28/2020	13:51	-0.1	DPE-7	15	8.95	--	3.89	3.44	
PZ-5	12.84	3/18/2020	12:25	0.0	DPE-7	15	7.23	--	5.61	1.72	
PZ-5	12.84	4/17/2020	10:11	0.2	DPE-7	15	8.59	--	4.25	3.08	
PZ-5	12.84	5/19/2020	14:55	0.1	DPE-7	15	7.78	--	5.06	2.27	
PZ-5	12.84	8/19/2020	13:21	n.m.	DPE-7	15	9.00	--	3.84	3.49	
PZ-5	12.84	9/2/2020	10:57	n.m.	DPE-7	15	8.96	--	3.88	3.45	
PZ-5	12.84	7/16/2021	10:32	0.0	DPE-7	15	6.62	--	6.22	1.11	
PZ-5	12.84	8/11/2021	12:45	0.2	DPE-7	15	7.92	--	4.92	2.41	
PZ-5	12.84	9/15/2021	12:59	0.1	DPE-7	15	6.74	--	6.10	1.23	
PZ-5	12.84	10/6/2021	13:59	0.2	DPE-7	15	7.04	--	5.80	1.53	
PZ-5	12.84	11/19/2021	14:34	0.1	DPE-7	15	5.40	--	7.44	-0.11	
PZ-5	12.84	12/16/2021	11:22	0.0	DPE-7	15	5.32	--	7.52	-0.19	
PZ-6	12.96	11/28/2017	9:36	n.m.	DPE-8	15	5.35	--	7.61	n.a.	DPE system baseline event before system startup - System off
PZ-6	12.96	11/30/2017	16:03	n.m.	DPE-8	15	6.19	--	6.77	0.84	DPE system testing
PZ-6	12.96	12/1/2017	15:36	n.m.	DPE-8	15	6.45	--	6.51	1.10	DPE system startup (groundwater extraction only)
PZ-6	12.96	12/5/2017	12:59	n.m.	DPE-8	15	8.73	--	4.23	3.38	
PZ-6	12.96	12/13/2017	11:38	n.m.	DPE-8	15	9.06	--	3.90	3.71	
PZ-6	12.96	12/13/2017	15:24	n.m.	DPE-8	15	9.04	--	3.92	3.69	
PZ-6	12.96	12/14/2017	13:35	n.m.	DPE-8	15	9.30	--	3.66	3.95	
PZ-6	12.96	12/20/2017	14:59	n.m.	DPE-8	15	8.59	--	4.37	3.24	
PZ-6	12.96	12/27/2017	13:05	n.m.	DPE-8	15	10.15	--	2.81	4.80	
PZ-6	12.96	1/5/2018	15:43	n.m.	DPE-8	15	8.52	--	4.44	3.17	
PZ-6	12.96	1/9/2018	15:20	n.m.	DPE-8	15	8.12	--	4.84	2.77	
PZ-6	12.96	1/18/2018	13:28	n.m.	DPE-8	15	6.50	--	6.46	1.15	
PZ-6	12.96	1/24/2018	14:32	n.m.	DPE-8	15	7.62	--	5.34	2.27	



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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-6	12.96	2/1/2018	9:28	n.m.	DPE-8	15	8.73	--	4.23	3.38	
PZ-6	12.96	2/8/2018	8:55	n.m.	DPE-8	15	6.47	--	6.49	1.12	DPE-8 off
PZ-6	12.96	2/13/2018	14:52	n.m.	DPE-8	15	6.56	--	6.40	1.21	SVE off DPE-8 off
PZ-6	12.96	2/20/2018	14:40	n.m.	DPE-8	15	7.76	--	5.20	2.41	DPE-8 off
PZ-6	12.96	2/28/2018	15:33	n.m.	DPE-8	15	8.70	--	4.26	3.35	
PZ-6	12.96	3/8/2018	15:21	n.m.	DPE-8	15	6.76	--	6.20	1.41	DPE-8 off
PZ-6	12.96	3/14/2018	15:10	n.m.	DPE-8	15	6.88	--	6.08	1.53	DPE-8 off
PZ-6	12.96	5/29/2018	15:35	n.m.	DPE-8	15	7.99	--	4.97	2.64	
PZ-6	12.96	6/18/2018	15:07	n.m.	DPE-8	15	7.91	--	5.05	2.56	SVE off
PZ-6	12.96	7/19/2018	16:50	n.m.	DPE-8	15	7.76	--	5.20	2.41	
PZ-6	12.96	8/7/2018	11:31	n.m.	DPE-8	15	8.19	--	4.77	2.84	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-6	12.96	10/26/2018	15:37	n.m.	DPE-8	15	6.50	--	6.46	1.15	
PZ-6	12.96	11/13/2018	15:58	n.m.	DPE-8	15	8.08	--	4.88	2.73	
PZ-6	12.96	1/29/2019	14:04	n.m.	DPE-8	15	5.72	--	7.24	0.37	
PZ-6	12.96	2/21/2019	11:48	n.m.	DPE-8	15	6.51	--	6.45	1.16	
PZ-6	12.96	3/14/2019	13:48	n.m.	DPE-8	15	6.27	--	6.69	0.92	
PZ-6	12.96	4/11/2019	13:30	n.m.	DPE-8	15	6.15	--	6.81	0.80	
PZ-6	12.96	5/9/2019	14:53	n.m.	DPE-8	15	7.01	--	5.95	1.66	
PZ-6	12.96	6/6/2019	14:05	n.m.	DPE-8	15	7.68	--	5.28	2.33	
PZ-6	12.96	8/1/2019	11:09	n.m.	DPE-8	15	7.44	--	5.52	2.09	DPE system expansion baseline event before system startup - System off
PZ-6	12.96	8/15/2019	9:49	n.m.	DPE-8	15	7.46	--	5.50	2.11	
PZ-6	12.96	8/21/2019	11:33	n.m.	DPE-8	15	7.32	--	5.64	1.97	
PZ-6	12.96	9/24/2019	10:02	n.m.	DPE-8	15	8.39	--	4.57	3.04	
PZ-6	12.96	2/13/2020	n.g.	n.m.	DPE-8	15	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-6	12.96	2/24/2020	11:22	n.m.	DPE-8	15	7.13	--	5.83	1.78	
PZ-6	12.96	2/28/2020	13:50	-0.1	DPE-8	15	7.68	--	5.28	2.33	
PZ-6	12.96	3/18/2020	11:33	0.0	DPE-8	15	6.70	--	6.26	1.35	
PZ-6	12.96	4/17/2020	10:04	0.0	DPE-8	15	7.61	--	5.35	2.26	
PZ-6	12.96	5/19/2020	14:50	0.0	DPE-8	15	7.11	--	5.85	1.76	
PZ-6	12.96	8/19/2020	13:27	n.m.	DPE-8	15	8.21	--	4.75	2.86	
PZ-6	12.96	9/2/2020	11:04	n.m.	DPE-8	15	8.15	--	4.81	2.80	
PZ-6	12.96	7/16/2021	10:49	0.0	DPE-8	15	6.61	--	6.35	1.26	
PZ-6	12.96	8/11/2021	12:50	0.0	DPE-8	15	7.42	--	5.54	2.07	
PZ-6	12.96	9/15/2021	13:02	0.0	DPE-8	15	6.71	--	6.25	1.36	
PZ-6	12.96	10/6/2021	14:05	0.1	DPE-8	15	6.87	--	6.09	1.52	
PZ-6	12.96	11/19/2021	14:30	0.0	DPE-8	15	5.29	--	7.67	-0.06	
PZ-6	12.96	12/16/2021	11:30	0.0	DPE-8	15	5.21	--	7.75	-0.14	
PZ-7	13.05	11/28/2017	9:45	n.m.	DPE-10	15	5.17	--	7.88	n.a.	DPE system baseline event before system startup - System off
PZ-7	13.05	11/30/2017	16:08	n.m.	DPE-10	15	5.79	--	7.26	0.62	DPE system testing
PZ-7	13.05	12/1/2017	15:33	n.m.	DPE-10	15	6.07	--	6.98	0.90	DPE system startup (groundwater extraction only)
PZ-7	13.05	12/5/2017	12:57	n.m.	DPE-10	15	7.57	--	5.48	2.40	
PZ-7	13.05	12/13/2017	11:36	n.m.	DPE-10	15	8.31	--	4.74	3.14	
PZ-7	13.05	12/13/2017	15:21	n.m.	DPE-10	15	8.37	--	4.68	3.20	
PZ-7	13.05	12/14/2017	13:30	n.m.	DPE-10	15	8.75	--	4.30	3.58	
PZ-7	13.05	12/20/2017	14:56	n.m.	DPE-10	15	8.10	--	4.95	2.93	
PZ-7	13.05	12/27/2017	11:40	n.m.	DPE-10	15	8.89	--	4.16	3.72	
PZ-7	13.05	1/5/2018	15:39	n.m.	DPE-10	15	8.03	--	5.02	2.86	
PZ-7	13.05	1/9/2018	14:18	n.m.	DPE-10	15	7.57	--	5.48	2.40	
PZ-7	13.05	1/18/2018	13:25	n.m.	DPE-10	15	6.60	--	6.45	1.43	
PZ-7	13.05	1/24/2018	14:29	n.m.	DPE-10	15	6.73	--	6.32	1.56	
PZ-7	13.05	2/1/2018	9:25	n.m.	DPE-10	15	8.21	--	4.84	3.04	
PZ-7	13.05	2/8/2018	8:50	n.m.	DPE-10	15	6.32	--	6.73	1.15	DPE-10 off
PZ-7	13.05	2/13/2018	14:48	n.m.	DPE-10	15	6.59	--	6.46	1.42	SVE off 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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-7	13.05	2/20/2018	14:35	n.m.	DPE-10	15	6.58	--	6.47	1.41	DPE-10 off
PZ-7	13.05	2/28/2018	15:30	n.m.	DPE-10	15	7.62	--	5.43	2.45	DPE-10 off
PZ-7	13.05	3/8/2018	15:25	n.m.	DPE-10	15	6.51	--	6.54	1.34	DPE-10 off
PZ-7	13.05	3/14/2018	15:14	n.m.	DPE-10	15	6.32	--	6.73	1.15	DPE-10 off
PZ-7	13.05	5/29/2018	15:37	n.m.	DPE-10	15	7.38	--	5.67	2.21	
PZ-7	13.05	6/18/2018	15:10	n.m.	DPE-10	15	7.20	--	5.85	2.03	SVE off
PZ-7	13.05	7/19/2018	16:53	n.m.	DPE-10	15	6.95	--	6.10	1.78	
PZ-7	13.05	8/7/2018	11:33	n.m.	DPE-10	15	7.55	--	5.50	2.38	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-7	13.05	10/26/2018	15:30	n.m.	DPE-10	15	7.20	--	5.85	2.03	
PZ-7	13.05	11/13/2018	16:05	n.m.	DPE-10	15	7.21	--	5.84	2.04	
PZ-7	13.05	1/29/2019	14:06	n.m.	DPE-10	15	5.81	--	7.24	0.64	
PZ-7	13.05	2/21/2019	11:50	n.m.	DPE-10	15	5.58	--	7.47	0.41	
PZ-7	13.05	3/14/2019	13:52	n.m.	DPE-10	15	6.10	--	6.95	0.93	
PZ-7	13.05	4/11/2019	13:33	n.m.	DPE-10	15	6.05	--	7.00	0.88	
PZ-7	13.05	5/9/2019	14:58	n.m.	DPE-10	15	6.65	--	6.40	1.48	
PZ-7	13.05	6/6/2019	14:08	n.m.	DPE-10	15	6.72	--	6.33	1.55	
PZ-7	13.05	8/1/2019	11:33	n.m.	DPE-10	15	6.45	--	6.60	1.28	DPE system expansion baseline event before system startup - System off
PZ-7	13.05	8/15/2019	9:57	n.m.	DPE-10	15	6.53	--	6.52	1.36	
PZ-7	13.05	8/21/2019	11:33	n.m.	DPE-10	15	5.92	--	7.13	0.75	
PZ-7	13.05	9/24/2019	10:07	n.m.	DPE-10	15	7.13	--	5.92	1.96	
PZ-7	13.05	2/13/2020	n.g.	n.m.	DPE-10	15	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-7	13.05	2/24/2020	11:28	n.m.	DPE-10	15	6.43	--	6.62	1.26	
PZ-7	13.05	2/28/2020	13:43	0.0	DPE-10	15	6.74	--	6.31	1.57	
PZ-7	13.05	3/18/2020	11:18	0.0	DPE-10	15	6.64	--	6.41	1.47	
PZ-7	13.05	4/17/2020	9:52	0.0	DPE-10	15	6.92	--	6.13	1.75	
PZ-7	13.05	5/19/2020	14:45	0.0	DPE-10	15	6.78	--	6.27	1.61	
PZ-7	13.05	8/19/2020	13:38	n.m.	DPE-10	15	7.25	--	5.80	2.08	
PZ-7	13.05	9/2/2020	11:07	n.m.	DPE-10	15	7.28	--	5.77	2.11	
PZ-7	13.05	7/16/2021	10:43	0.0	DPE-10	15	6.32	--	6.73	1.15	
PZ-7	13.05	8/11/2021	12:55	0.0	DPE-10	15	6.72	--	6.33	1.55	
PZ-7	13.05	9/15/2021	14:50	0.0	DPE-10	15	6.48	--	6.57	1.31	
PZ-7	13.05	10/6/2021	14:10	0.0	DPE-10	15	6.40	--	6.65	1.23	
PZ-7	13.05	11/19/2021	14:40	0.0	DPE-10	15	5.10	--	7.95	-0.07	
PZ-7	13.05	12/16/2021	11:37	0.0	DPE-10	15	5.02	--	8.03	-0.15	
PZ-8	12.91	11/28/2017	9:54	n.m.	DPE-11	12	5.59	--	7.32	n.a.	DPE system baseline event before system startup - System off
PZ-8	12.91	11/30/2017	16:21	n.m.	DPE-11	12	5.67	--	7.24	0.08	DPE system testing
PZ-8	12.91	12/1/2017	15:26	n.m.	DPE-11	12	6.71	--	6.20	1.12	DPE system startup (groundwater extraction only) - DPE-11 off
PZ-8	12.91	12/5/2017	12:35	n.m.	DPE-11	12	6.35	--	6.56	0.76	DPE-11 off
PZ-8	12.91	12/13/2017	11:25	n.m.	DPE-11	12	7.48	--	5.43	1.89	DPE-11 repaired
PZ-8	12.91	12/13/2017	15:17	n.m.	DPE-11	12	7.45	--	5.46	1.86	
PZ-8	12.91	12/14/2017	13:04	n.m.	DPE-11	12	7.60	--	5.31	2.01	
PZ-8	12.91	12/20/2017	14:40	n.m.	DPE-11	12	7.21	--	5.70	1.62	
PZ-8	12.91	12/27/2017	11:44	n.m.	DPE-11	12	7.69	--	5.22	2.10	
PZ-8	12.91	1/5/2018	15:24	n.m.	DPE-11	12	7.56	--	5.35	1.97	
PZ-8	12.91	1/9/2018	14:20	n.m.	DPE-11	12	7.41	--	5.50	1.82	
PZ-8	12.91	1/18/2018	13:08	n.m.	DPE-11	12	7.19	--	5.72	1.60	
PZ-8	12.91	1/24/2018	14:20	n.m.	DPE-11	12	7.62	--	5.29	2.03	
PZ-8	12.91	2/1/2018	9:10	n.m.	DPE-11	12	7.85	--	5.06	2.26	
PZ-8	12.91	2/8/2018	8:40	n.m.	DPE-11	12	6.16	--	6.75	0.57	DPE-11 off
PZ-8	12.91	2/13/2018	14:41	n.m.	DPE-11	12	7.71	--	5.20	2.12	SVE off
PZ-8	12.91	2/20/2018	14:25	n.m.	DPE-11	12	7.70	--	5.21	2.11	
PZ-8	12.91	2/28/2018	15:20	n.m.	DPE-11	12	6.45	--	6.46	0.86	DPE-11 off
PZ-8	12.91	3/8/2018	14:25	n.m.	DPE-11	12	6.03	--	6.88	0.44	DPE-11 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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-8	12.91	3/14/2018	14:23	n.m.	DPE-11	12	6.00	--	6.91	0.41	DPE-11 off
PZ-8	12.91	5/29/2018	14:23	n.m.	DPE-11	12	9.42	--	3.49	3.83	
PZ-8	12.91	6/18/2018	9:51	n.m.	DPE-11	12	8.49	--	4.42	2.90	
PZ-8	12.91	7/19/2018	16:10	n.m.	DPE-11	12	9.31	--	3.60	3.72	
PZ-8	12.91	8/7/2018	10:49	n.m.	DPE-11	12	7.45	--	5.46	1.86	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-8	12.91	10/26/2018	14:50	n.m.	DPE-11	12	8.58	--	4.33	2.99	
PZ-8	12.91	11/13/2018	15:28	n.m.	DPE-11	12	8.20	--	4.71	2.61	
PZ-8	12.91	1/29/2019	13:15	n.m.	DPE-11	12	7.95	--	4.96	2.36	
PZ-8	12.91	2/21/2019	10:55	n.m.	DPE-11	12	8.07	--	4.84	2.48	
PZ-8	12.91	3/14/2019	13:11	n.m.	DPE-11	12	8.15	--	4.76	2.56	
PZ-8	12.91	4/11/2019	12:41	n.m.	DPE-11	12	8.05	--	4.86	2.46	
PZ-8	12.91	5/9/2019	14:09	n.m.	DPE-11	12	8.59	--	4.32	3.00	
PZ-8	12.91	6/6/2019	13:27	n.m.	DPE-11	12	8.40	--	4.51	2.81	
PZ-8	12.91	8/1/2019	11:26	n.m.	DPE-11	12	6.00	--	6.91	0.41	DPE system expansion baseline event before system startup - System off
PZ-8	12.91	8/15/2019	10:09	n.m.	DPE-11	12	6.08	--	6.83	0.49	
PZ-8	12.91	8/21/2019	11:10	n.m.	DPE-11	12	6.31	--	6.60	0.72	
PZ-8	12.91	9/24/2019	10:37	n.m.	DPE-11	12	8.60	--	4.31	3.01	
PZ-8	12.91	2/13/2020	n.g.	n.m.	DPE-11	12	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-8	12.91	2/24/2020	10:59	n.m.	DPE-11	12	8.52	--	4.39	2.93	
PZ-8	12.91	2/28/2020	13:30	0.0	DPE-11	12	7.71	--	5.20	2.12	
PZ-8	12.91	3/18/2020	10:51	0.0	DPE-11	12	8.44	--	4.47	2.85	
PZ-8	12.91	4/17/2020	13:19	0.0	DPE-11	12	8.41	--	4.50	2.82	
PZ-8	12.91	5/19/2020	14:35	0.0	DPE-11	12	8.26	--	4.65	2.67	
PZ-8	12.91	8/19/2020	13:53	n.m.	DPE-11	12	8.31	--	4.60	2.72	
PZ-8	12.91	9/2/2020	11:23	n.m.	DPE-11	12	8.36	--	4.55	2.77	
PZ-8	12.91	7/16/2021	10:52	0.0	DPE-11	12	6.01	--	6.90	0.42	
PZ-8	12.91	8/11/2021	13:00	0.0	DPE-11	12	6.21	--	6.70	0.62	
PZ-8	12.91	9/15/2021	14:55	0.0	DPE-11	12	6.16	--	6.75	0.57	
PZ-8	12.91	10/6/2021	15:03	0.0	DPE-11	12	7.74	--	5.17	2.15	
PZ-8	12.91	11/19/2021	15:15	0.0	DPE-11	12	5.27	--	7.64	-0.32	
PZ-8	12.91	12/16/2021	11:45	0.0	DPE-11	12	5.18	--	7.73	-0.41	
PZ-9	12.85	11/28/2017	10:03	n.m.	DPE-12	16	5.30	--	7.55	n.a.	DPE system baseline event before system startup - System off
PZ-9	12.85	11/30/2017	16:26	n.m.	DPE-12	16	7.87	--	4.98	2.57	DPE system testing
PZ-9	12.85	12/1/2017	15:23	n.m.	DPE-12	16	9.45	--	3.40	4.15	DPE system startup (groundwater extraction only)
PZ-9	12.85	12/5/2017	12:32	n.m.	DPE-12	16	8.78	--	4.07	3.48	
PZ-9	12.85	12/13/2017	11:19	n.m.	DPE-12	16	7.55	--	5.30	2.25	DPE 12 off
PZ-9	12.85	12/13/2017	16:02	n.m.	DPE-12	16	7.52	--	5.33	2.22	DPE 12 off
PZ-9	12.85	12/14/2017	12:58	n.m.	DPE-12	16	7.57	--	5.28	2.27	DPE 12 off
PZ-9	12.85	12/20/2017	14:32	n.m.	DPE-12	16	6.93	--	5.92	1.63	DPE 12 off
PZ-9	12.85	12/27/2017	11:47	n.m.	DPE-12	16	7.35	--	5.50	2.05	DPE 12 off
PZ-9	12.85	1/5/2018	15:15	n.m.	DPE-12	16	7.25	--	5.60	1.95	DPE 12 off
PZ-9	12.85	1/9/2018	10:56	n.m.	DPE-12	16	6.70	--	6.15	1.40	DPE 12 off
PZ-9	12.85	1/18/2018	12:52	n.m.	DPE-12	16	6.67	--	6.18	1.37	DPE 12 off
PZ-9	12.85	1/24/2018	14:00	n.m.	DPE-12	16	6.47	--	6.38	1.17	DPE 12 off
PZ-9	12.85	2/1/2018	9:00	n.m.	DPE-12	16	6.90	--	5.95	1.60	DPE 12 off
PZ-9	12.85	2/8/2018	8:25	n.m.	DPE-12	16	5.85	--	7.00	0.55	DPE 12 off
PZ-9	12.85	2/13/2018	14:35	n.m.	DPE-12	16	6.95	--	5.90	1.65	DPE 12 off
PZ-9	12.85	2/20/2018	14:10	n.m.	DPE-12	16	7.19	--	5.66	1.89	DPE 12 off
PZ-9	12.85	2/28/2018	15:05	n.m.	DPE-12	16	6.09	--	6.76	0.79	DPE 12 off
PZ-9	12.85	3/8/2018	14:10	n.m.	DPE-12	16	5.78	--	7.07	0.48	DPE 12 off
PZ-9	12.85	3/14/2018	14:13	n.m.	DPE-12	16	5.79	--	7.06	0.49	DPE 12 off
PZ-9	12.85	5/29/2018	14:13	n.m.	DPE-12-R	16	8.40	--	4.45	3.10	
PZ-9	12.85	6/18/2018	9:47	n.m.	DPE-12-R	16	8.25	--	4.60	2.95	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-9	12.85	7/19/2018	16:08	n.m.	DPE-12-R	16	7.96	--	4.89	2.66	
PZ-9	12.85	8/7/2018	10:47	n.m.	DPE-12-R	16	8.54	--	4.31	3.24	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-9	12.85	10/26/2018	14:54	n.m.	DPE-12-R	16	6.58	--	6.27	1.28	
PZ-9	12.85	11/13/2018	15:22	n.m.	DPE-12-R	16	7.42	--	5.43	2.12	
PZ-9	12.85	1/29/2019	13:08	n.m.	DPE-12-R	16	6.76	--	6.09	1.46	
PZ-9	12.85	2/21/2019	10:45	n.m.	DPE-12-R	16	6.26	--	6.59	0.96	
PZ-9	12.85	3/14/2019	13:07	n.m.	DPE-12-R	16	6.32	--	6.53	1.02	
PZ-9	12.85	4/11/2019	12:38	n.m.	DPE-12-R	16	6.21	--	6.64	0.91	
PZ-9	12.85	5/9/2019	14:07	n.m.	DPE-12-R	16	6.95	--	5.90	1.65	
PZ-9	12.85	6/6/2019	13:27	n.m.	DPE-12-R	16	6.23	--	6.62	0.93	
PZ-9	12.85	8/1/2019	11:28	n.m.	DPE-12-R	16	5.84	--	7.01	0.54	DPE system expansion baseline event before system startup - System off
PZ-9	12.85	8/15/2019	10:11	n.m.	DPE-12-R	16	5.95	--	6.90	0.65	
PZ-9	12.85	8/21/2019	11:17	n.m.	DPE-12-R	16	6.10	--	6.75	0.80	
PZ-9	12.85	9/24/2019	10:38	n.m.	DPE-12-R	16	7.83	--	5.02	2.53	
PZ-9	12.85	2/13/2020	n.g.	n.m.	DPE-12-R	16	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-9	12.85	2/24/2020	11:03	n.m.	DPE-12-R	16	7.08	--	5.77	1.78	
PZ-9	12.85	2/28/2020	13:25	0.0	DPE-12-R	16	7.13	--	5.72	1.83	
PZ-9	12.85	3/18/2020	10:27	0.0	DPE-12-R	16	6.81	--	6.04	1.51	
PZ-9	12.85	4/17/2020	13:13	0.0	DPE-12-R	16	6.92	--	5.93	1.62	
PZ-9	12.85	5/19/2020	14:10	0.0	DPE-12-R	16	6.81	--	6.04	1.51	
PZ-9	12.85	8/19/2020	13:58	n.m.	DPE-12-R	16	6.95	--	5.90	1.65	
PZ-9	12.85	9/2/2020	11:30	n.m.	DPE-12-R	16	7.04	--	5.81	1.74	
PZ-9	12.85	7/16/2021	11:01	0.0	DPE-12-R	16	5.85	--	7.00	0.55	
PZ-9	12.85	8/11/2021	13:05	0.0	DPE-12-R	16	6.95	--	5.90	1.65	
PZ-9	12.85	9/15/2021	15:05	0.0	DPE-12-R	16	5.96	--	6.89	0.66	
PZ-9	12.85	10/6/2021	15:13	0.0	DPE-12-R	16	5.82	--	7.03	0.52	
PZ-9	12.85	11/19/2021	15:09	0.0	DPE-12-R	16	5.33	--	7.52	0.03	
PZ-9	12.85	12/16/2021	11:53	0.0	DPE-12-R	16	5.31	--	7.54	0.01	
PZ-10	12.62	11/28/2017	10:13	n.m.	DPE-13	17	5.24	--	7.38	n.a.	DPE system baseline event before system startup - System off
PZ-10	12.62	11/30/2017	16:30	n.m.	DPE-13	17	6.36	--	6.26	1.12	DPE system testing
PZ-10	12.62	12/1/2017	15:21	n.m.	DPE-13	17	6.92	--	5.70	1.68	DPE system startup (groundwater extraction only)
PZ-10	12.62	12/5/2017	12:30	n.m.	DPE-13	17	6.69	--	5.93	1.45	
PZ-10	12.62	12/13/2017	11:15	n.m.	DPE-13	17	6.92	--	5.70	1.68	
PZ-10	12.62	12/13/2017	15:13	n.m.	DPE-13	17	6.93	--	5.69	1.69	
PZ-10	12.62	12/14/2017	12:56	n.m.	DPE-13	17	6.96	--	5.66	1.72	
PZ-10	12.62	12/20/2017	14:30	n.m.	DPE-13	17	6.25	--	6.37	1.01	
PZ-10	12.62	12/27/2017	12:00	n.m.	DPE-13	17	6.90	--	5.72	1.66	
PZ-10	12.62	1/5/2018	15:10	n.m.	DPE-13	17	6.67	--	5.95	1.43	
PZ-10	12.62	1/9/2018	10:40	n.m.	DPE-13	17	4.80	--	7.82	-0.44	Depth to water inconsistent with historical data
PZ-10	12.62	1/18/2018	12:45	n.m.	DPE-13	17	6.15	--	6.47	0.91	
PZ-10	12.62	1/24/2018	13:55	n.m.	DPE-13	17	6.09	--	6.53	0.85	
PZ-10	12.62	2/1/2018	8:50	n.m.	DPE-13	17	6.43	--	6.19	1.19	
PZ-10	12.62	2/8/2018	8:20	n.m.	DPE-13	17	5.83	--	6.79	0.59	DPE-13 off
PZ-10	12.62	2/13/2018	14:30	n.m.	DPE-13	17	6.49	--	6.13	1.25	SVE off
PZ-10	12.62	2/20/2018	14:05	n.m.	DPE-13	17	6.65	--	5.97	1.41	
PZ-10	12.62	2/28/2018	15:00	n.m.	DPE-13	17	6.11	--	6.51	0.87	DPE-13 off
PZ-10	12.62	3/8/2018	14:05	n.m.	DPE-13	17	5.78	--	6.84	0.54	DPE-13 off
PZ-10	12.62	3/14/2018	14:08	n.m.	DPE-13	17	5.81	--	6.81	0.57	DPE-13 off
PZ-10	12.62	5/29/2018	14:09	n.m.	DPE-13	17	7.23	--	5.39	1.99	
PZ-10	12.62	6/18/2018	9:45	n.m.	DPE-13	17	7.15	--	5.47	1.91	
PZ-10	12.62	7/19/2018	16:05	n.m.	DPE-13	17	7.94	--	4.68	2.70	
PZ-10	12.62	8/7/2018	10:45	n.m.	DPE-13	17	7.71	--	4.91	2.47	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
PZ-10	12.62	10/26/2018	14:48	n.m.	DPE-13	17	5.82	--	6.80	0.58	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
PZ-10	12.62	11/13/2018	15:20	n.m.	DPE-13	17	6.78	--	5.84	1.54	
PZ-10	12.62	1/29/2019	13:05	n.m.	DPE-13	17	5.60	--	7.02	0.36	
PZ-10	12.62	2/21/2019	10:39	n.m.	DPE-13	17	5.55	--	7.07	0.31	
PZ-10	12.62	3/14/2019	13:05	n.m.	DPE-13	17	5.65	--	6.97	0.41	
PZ-10	12.62	4/11/2019	12:36	n.m.	DPE-13	17	5.60	--	7.02	0.36	
PZ-10	12.62	5/9/2019	14:05	n.m.	DPE-13	17	6.31	--	6.31	1.07	
PZ-10	12.62	6/6/2019	13:19	n.m.	DPE-13	17	6.14	--	6.48	0.90	
PZ-10	12.62	8/1/2019	11:29	n.m.	DPE-13	17	5.81	--	6.81	0.57	DPE system expansion baseline event before system startup - System off
PZ-10	12.62	8/15/2019	10:12	n.m.	DPE-13	17	5.89	--	6.73	0.65	
PZ-10	12.62	8/21/2019	11:22	n.m.	DPE-13	17	6.08	--	6.54	0.84	
PZ-10	12.62	9/24/2019	10:41	n.m.	DPE-13	17	6.74	--	5.88	1.50	
PZ-10	12.62	2/13/2020	n.g.	n.m.	DPE-13	17	n.g.	n.g.	n.g.	n.g.	DPE system testing
PZ-10	12.62	2/24/2020	11:08	n.m.	DPE-13	17	6.19	--	6.43	0.95	
PZ-10	12.62	2/28/2020	13:20	0.0	DPE-13	17	6.39	--	6.23	1.15	
PZ-10	12.62	3/18/2020	10:31	0.0	DPE-13	17	6.02	--	6.60	0.78	
PZ-10	12.62	4/17/2020	13:06	0.0	DPE-13	17	6.18	--	6.44	0.94	
PZ-10	12.62	5/19/2020	14:00	0.0	DPE-13	17	6.12	--	6.50	0.88	
PZ-10	12.62	8/19/2020	14:04	n.m.	DPE-13	17	6.32	--	6.30	1.08	
PZ-10	12.62	9/2/2020	11:34	n.m.	DPE-13	17	6.41	--	6.21	1.17	
PZ-10	12.62	7/16/2021	11:06	0.0	DPE-13	17	5.70	--	6.92	0.46	
PZ-10	12.62	8/11/2021	13:10	0.0	DPE-13	17	5.88	--	6.74	0.64	
PZ-10	12.62	9/15/2021	15:07	0.0	DPE-13	17	5.86	--	6.76	0.62	
PZ-10	12.62	10/6/2021	15:18	0.0	DPE-13	17	5.70	--	6.92	0.46	
PZ-10	12.62	11/19/2021	15:12	0.0	DPE-13	17	5.23	--	7.39	-0.01	
PZ-10	12.62	12/16/2021	12:00	0.0	DPE-13	17	5.20	--	7.42	-0.04	
MW-20R	12.17	3/8/2018	14:45	n.m.	DPE-5	n.a.	6.33	--	5.84	n.a.	
MW-20R	12.17	3/14/2018	14:40	n.m.	DPE-5	n.a.	6.50	--	5.67	n.a.	
MW-20R	12.17	5/29/2018	14:35	n.m.	DPE-5	n.a.	7.24	--	4.93	n.a.	
MW-20R	12.17	6/18/2018	14:30	n.m.	DPE-5	n.a.	7.11	--	5.06	n.a.	SVE off
MW-20R	12.17	7/19/2018	16:26	n.m.	DPE-5	n.a.	6.90	--	5.27	n.a.	
MW-20R	12.17	8/7/2018	11:08	n.m.	DPE-5	n.a.	7.15	--	5.02	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-20R	12.17	10/26/2018	15:03	n.m.	DPE-5	n.a.	6.13	--	6.04	n.a.	
MW-20R	12.17	11/13/2018	15:38	n.m.	DPE-5	n.a.	6.21	--	5.96	n.a.	
MW-20R	12.17	1/29/2019	13:25	n.m.	DPE-5	n.a.	6.21	--	5.96	n.a.	
MW-20R	12.17	2/21/2019	11:19	n.m.	DPE-5	n.a.	6.15	--	6.02	n.a.	
MW-20R	12.17	3/14/2019	13:20	n.m.	DPE-5	n.a.	6.30	--	5.87	n.a.	
MW-20R	12.17	4/11/2019	12:55	n.m.	DPE-5	n.a.	5.96	--	6.21	n.a.	
MW-20R	12.17	5/9/2019	14:23	n.m.	DPE-5	n.a.	6.61	--	5.56	n.a.	
MW-20R	12.17	6/6/2019	13:40	n.m.	DPE-5	n.a.	6.85	--	5.32	n.a.	
MW-20R	12.17	8/1/2019	10:39	n.m.	DPE-5	n.a.	6.78	--	5.39	n.a.	DPE system expansion baseline event before system startup - System off
MW-20R	12.17	8/15/2019	9:40	n.m.	DPE-5	n.a.	6.85	--	5.32	n.a.	
MW-20R	12.17	8/21/2019	10:52	n.m.	DPE-5	n.a.	6.91	--	5.26	n.a.	
MW-20R	12.17	9/24/2019	10:19	n.m.	DPE-5	n.a.	7.30	--	4.87	n.a.	
MW-20R	12.17	2/13/2020	9:42	n.m.	DPE-5	n.a.	6.19	--	5.98	n.a.	DPE system testing
MW-20R	12.17	2/24/2020	10:48	n.m.	DPE-5	n.a.	6.96	--	5.21	n.a.	
MW-20R	12.17	2/28/2020	14:35	-0.1	DPE-5	n.a.	7.38	--	4.79	n.a.	
MW-20R	12.17	3/18/2020	13:17	0.0	DPE-5	n.a.	6.65	--	5.52	n.a.	
MW-20R	12.17	4/17/2020	11:44	0.0	DPE-5	n.a.	7.18	--	4.99	n.a.	
MW-20R	12.17	5/19/2020	12:50	0.0	DPE-5	n.a.	6.94	--	5.23	n.a.	
MW-20R	12.17	8/19/2020	14:12	n.m.	DPE-5	n.a.	7.48	--	4.69	n.a.	
MW-20R	12.17	9/2/2020	11:00	n.m.	DPE-5	n.a.	7.39	--	4.78	n.a.	
MW-20R	12.17	7/16/2021	11:30	0.0	DPE-5	n.a.	6.75	--	5.42	n.a.	
MW-20R	12.17	8/11/2021	13:20	0.0	DPE-5	n.a.	7.28	--	4.89	n.a.	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-20R	12.17	9/15/2021	15:41	0.0	DPE-5	n.a.	6.82	--	5.35	n.a.	
MW-20R	12.17	10/6/2021	13:05	0.1	DPE-5	n.a.	7.12	--	5.05	n.a.	
MW-20R	12.17	11/19/2021	13:47	0.0	DPE-5	n.a.	5.85	--	6.32	n.a.	
MW-20R	12.17	12/16/2021	12:08	0.0	DPE-5	n.a.	5.48	--	6.69	n.a.	
MW-101	14.99	8/1/2019	11:42	n.m.	DPE-15	9	9.03	--	5.96	n.a.	DPE system expansion baseline event before system startup - System off
MW-101	14.99	8/15/2019	10:35	n.m.	DPE-15	9	9.67	--	5.32	0.64	
MW-101	14.99	8/21/2019	10:41	n.m.	DPE-15	9	9.81	--	5.18	0.78	
MW-101	14.99	9/24/2019	10:24	n.m.	DPE-15	9	10.00	--	4.99	0.97	
MW-101	14.99	2/13/2020	9:48	n.m.	DPE-15	9	9.13	--	5.86	0.1	DPE system testing
MW-101	14.99	2/24/2020	10:56	n.m.	DPE-15	9	9.93	--	5.06	0.9	
MW-101	14.99	2/28/2020	14:40	1.2	DPE-15	9	10.18	--	4.81	1.15	
MW-101	14.99	3/18/2020	12:59	2.0	DPE-15	9	9.69	--	5.30	0.66	
MW-101	14.99	4/17/2020	11:51	1.8	DPE-15	9	9.93	--	5.06	0.9	
MW-101	14.99	5/19/2020	13:05	1.2	DPE-15	9	9.76	--	5.23	0.73	
MW-101	14.99	8/19/2020	14:23	n.m.	DPE-15	9	10.00	--	4.99	0.97	
MW-101	14.99	9/2/2020	10:53	n.m.	DPE-15	9	9.93	--	5.06	0.9	
MW-101	14.99	7/16/2021	11:45	3.1	DPE-15	9	9.74	--	5.25	0.71	
MW-101	14.99	8/1/2021	n.a.	n.a.	DPE-15	9	n.g.	n.g.	n.g.	n.g.	Unable to open due to heat wave (Metal dilated)
MW-101	14.99	9/15/2021	15:45	3.1	DPE-15	9	9.63	--	5.36	0.6	
MW-101	14.99	10/6/2021	13:10	4.7	DPE-15	9	9.29	--	5.70	0.26	
MW-101	14.99	11/19/2021	13:41	0.0	DPE-15	9	8.25	--	6.74	-0.78	
MW-101	14.99	12/16/2021	12:15	0.0	DPE-15	9	7.92	--	7.07	-1.11	
MW-104	14.08	3/8/2018	14:40	n.m.	DPE-3	n.a.	5.32	--	8.76	n.a.	
MW-104	14.08	3/14/2018	14:35	n.m.	DPE-3	n.a.	8.09	--	5.99	n.a.	
MW-104	14.08	5/29/2018	14:33	n.m.	DPE-3	n.a.	8.89	--	5.19	n.a.	
MW-104	14.08	6/18/2018	10:14	n.m.	DPE-3	n.a.	8.42	--	5.66	n.a.	
MW-104	14.08	7/19/2018	16:24	n.m.	DPE-3	n.a.	8.50	--	5.58	n.a.	
MW-104	14.08	8/7/2018	11:05	n.m.	DPE-3	n.a.	8.45	--	5.63	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-104	14.08	10/26/2018	15:00	n.m.	DPE-3	n.a.	8.30	--	5.78	n.a.	
MW-104	14.08	11/13/2018	15:35	n.m.	DPE-3	n.a.	8.51	--	5.57	n.a.	
MW-104	14.08	1/29/2019	13:23	n.m.	DPE-3	n.a.	7.90	--	6.18	n.a.	
MW-104	14.08	2/21/2019	11:16	n.m.	DPE-3	n.a.	7.69	--	6.39	n.a.	
MW-104	14.08	3/14/2019	13:17	n.m.	DPE-3	n.a.	8.19	--	5.89	n.a.	
MW-104	14.08	4/11/2019	12:53	n.m.	DPE-3	n.a.	7.73	--	6.35	n.a.	
MW-104	14.08	5/9/2019	14:20	n.m.	DPE-3	n.a.	8.31	--	5.77	n.a.	
MW-104	14.08	6/6/2019	13:34	n.m.	DPE-3	n.a.	8.45	--	5.63	n.a.	
MW-104	14.08	8/1/2019	10:43	n.m.	DPE-3	n.a.	8.32	--	5.76	n.a.	DPE system expansion baseline event before system startup - System off
MW-104	14.08	8/15/2019	9:42	n.m.	DPE-3	n.a.	8.54	--	5.54	n.a.	
MW-104	14.08	8/21/2019	10:48	n.m.	DPE-3	n.a.	8.68	--	5.40	n.a.	
MW-104	14.08	9/24/2019	10:22	n.m.	DPE-3	n.a.	8.94	--	5.14	n.a.	
MW-104	14.08	2/13/2020	9:45	n.m.	DPE-3	n.a.	7.92	--	6.16	n.a.	DPE system testing
MW-104	14.08	2/24/2020	10:52	n.m.	DPE-3	n.a.	8.69	--	5.39	n.a.	
MW-104	14.08	2/28/2020	14:38	0.0	DPE-3	n.a.	9.18	--	4.90	n.a.	
MW-104	14.08	3/18/2020	12:55	0.0	DPE-3	n.a.	8.46	--	5.62	n.a.	
MW-104	14.08	4/17/2020	11:46	0.0	DPE-3	n.a.	8.91	--	5.17	n.a.	
MW-104	14.08	5/19/2020	12:55	0.0	DPE-3	n.a.	8.63	--	5.45	n.a.	
MW-104	14.08	8/19/2020	14:17	n.m.	DPE-3	n.a.	9.13	--	4.95	n.a.	
MW-104	14.08	9/2/2020	10:57	n.m.	DPE-3	n.a.	9.04	--	5.04	n.a.	
MW-104	14.08	7/16/2021	11:39	0.0	DPE-3	n.a.	8.49	--	5.59	n.a.	
MW-104	14.08	8/1/2021	13:30	0.0	DPE-3	n.a.	8.91	--	5.17	n.a.	
MW-104	14.08	9/15/2021	15:44	0.0	DPE-3	n.a.	8.59	--	5.49	n.a.	
MW-104	14.08	10/6/2021	13:08	0.0	DPE-3	n.a.	8.65	--	5.43	n.a.	
MW-104	14.08	11/19/2021	13:44	0.0	DPE-3	n.a.	7.33	--	6.75	n.a.	



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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-104	14.08	12/16/2021	12:22	0.0	DPE-3	n.a.	7.16	--	6.92	n.a.	
MW-126	12.40	11/28/2017	9:13	n.m.	DPE-6	45	3.83	--	8.57	n.a.	DPE system baseline event before system startup - System off
MW-126	12.40	11/30/2017	15:20	n.m.	DPE-6	45	3.78	--	8.62	n.a.	DPE system testing
MW-126	12.40	12/1/2017	15:52	n.m.	DPE-6	45	4.07	--	8.33	n.a.	DPE system startup (groundwater extraction only)
MW-126	12.40	12/5/2017	13:26	n.m.	DPE-6	45	5.03	--	7.37	n.a.	
MW-126	12.40	12/13/2017	12:03	n.m.	DPE-6	45	5.70	--	6.70	n.a.	
MW-126	12.40	12/13/2017	15:15	n.m.	DPE-6	45	5.41	--	6.99	n.a.	
MW-126	12.40	12/14/2017	14:23	n.m.	DPE-6	45	6.02	--	6.38	n.a.	
MW-126	12.40	12/20/2017	15:28	n.m.	DPE-6	45	4.74	--	7.66	n.a.	
MW-126	12.40	12/27/2017	n.a.	n.m.	DPE-6	45	n.g.	n.g.	n.g.	n.a.	Not Gauged
MW-126	12.40	1/5/2018	16:05	n.m.	DPE-6	45	5.10	--	7.30	n.a.	
MW-126	12.40	1/9/2018	15:45	n.m.	DPE-6	45	4.39	--	8.01	n.a.	
MW-126	12.40	1/18/2018	13:49	n.m.	DPE-6	45	4.17	--	8.23	n.a.	
MW-126	12.40	1/24/2018	14:57	n.m.	DPE-6	45	4.00	--	8.40	n.a.	
MW-126	12.40	2/1/2018	9:43	n.m.	DPE-6	45	5.25	--	7.15	n.a.	
MW-126	12.40	2/8/2018	9:38	n.m.	DPE-6	45	4.44	--	7.96	n.a.	
MW-126	12.40	2/13/2018	14:59	n.m.	DPE-6	45	4.69	--	7.71	n.a.	SVE off
MW-126	12.40	2/20/2018	14:51	n.m.	DPE-6	45	4.94	--	7.46	n.a.	
MW-126	12.40	2/28/2018	15:57	n.m.	DPE-6	45	5.62	--	6.78	n.a.	
MW-126	12.40	3/8/2018	15:00	n.m.	DPE-6	45	4.90	--	7.50	n.a.	
MW-126	12.40	3/14/2018	14:53	n.m.	DPE-6	45	4.78	--	7.62	n.a.	
MW-126	12.40	5/29/2018	14:50	n.m.	DPE-6	45	6.29	--	6.11	n.a.	
MW-126	12.40	6/18/2018	14:50	n.m.	DPE-6	45	5.64	--	6.76	n.a.	SVE off
MW-126	12.40	7/19/2018	16:36	n.m.	DPE-6	45	6.64	--	5.76	n.a.	
MW-126	12.40	8/7/2018	11:17	n.m.	DPE-6	45	6.86	--	5.54	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-126	12.40	10/26/2018	15:10	n.m.	DPE-6	45	5.20	--	7.20	n.a.	
MW-126	12.40	11/13/2018	15:48	n.m.	DPE-6	45	5.92	--	6.48	n.a.	
MW-126	12.40	1/29/2019	13:41	n.m.	DPE-6	45	3.63	--	8.77	n.a.	
MW-126	12.40	2/21/2019	11:35	n.m.	DPE-6	45	4.34	--	8.06	n.a.	
MW-126	12.40	3/14/2019	13:32	n.m.	DPE-6	45	4.70	--	7.70	n.a.	
MW-126	12.40	4/11/2019	13:08	n.m.	DPE-6	45	4.70	--	7.70	n.a.	
MW-126	12.40	5/9/2019	14:33	n.m.	DPE-6	45	5.26	--	7.14	n.a.	
MW-126	12.40	6/6/2019	13:50	n.m.	DPE-6	45	5.49	--	6.91	n.a.	
MW-126	12.40	8/1/2019	10:06	n.m.	DPE-6	45	5.83	--	6.57	n.a.	DPE system expansion baseline event before system startup - System off
MW-126	12.40	8/15/2019	9:34	n.m.	DPE-6	45	5.96	--	6.44	n.a.	
MW-126	12.40	8/21/2019	11:15	n.m.	DPE-6	45	6.34	--	6.06	n.a.	
MW-126	12.40	9/24/2019	9:37	n.m.	DPE-6	45	6.17	--	6.23	n.a.	
MW-126	12.40	2/13/2020	9:05	n.m.	DPE-6	45	4.42	--	7.98	n.a.	DPE system testing
MW-126	12.40	2/24/2020	12:09	n.m.	DPE-6	45	5.03	--	7.37	n.a.	
MW-126	12.40	2/28/2020	14:08	0.0	DPE-6	45	5.38	--	7.02	n.a.	
MW-126	12.40	3/18/2020	11:46	0.0	DPE-6	45	5.30	--	7.10	n.a.	
MW-126	12.40	4/17/2020	11:07	+0.2	DPE-6	45	5.94	--	6.46	n.a.	
MW-126	12.40	5/19/2020	12:15	0.0	DPE-6	45	5.83	--	6.57	n.a.	
MW-126	12.40	8/19/2020	14:35	n.m.	DPE-6	45	6.47	--	5.93	n.a.	
MW-126	12.40	9/2/2020	11:48	n.m.	DPE-6	45	6.61	--	5.79	n.a.	
MW-126	12.40	7/16/2021	13:42	0.0	DPE-6	45	5.89	--	6.51	n.a.	
MW-126	12.40	8/11/2021	13:50	0.0	DPE-6	45	6.22	--	6.18	n.a.	
MW-126	12.40	9/15/2021	15:30	0.0	DPE-6	45	6.09	--	6.31	n.a.	
MW-126	12.40	10/6/2021	13:27	0.0	DPE-6	45	5.85	--	6.55	n.a.	
MW-126	12.40	11/19/2021	14:03	0.0	DPE-6	45	4.04	--	8.36	n.a.	
MW-126	12.40	12/16/2021	12:30	0.0	DPE-6	45	4.03	--	8.37	n.a.	
MW-129-R	12.92	8/1/2019	11:51	n.m.	DPE-18	8	5.75	--	7.17	n.a.	DPE system expansion baseline event before system startup - System 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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-129-R	12.92	8/15/2019	10:24	n.m.	DPE-18	8	7.09	7.04	5.83	1.34	Evidence of LNAPL on probe and within bailer. 0.01 feet of LNAPL observed within bailer. Begin weekly gauging.
MW-129-R	12.92	8/21/2019	9:42	n.m.	DPE-18	8	7.24	7.21	5.68	1.49	Evidence of LNAPL on probe and within bailer. 0.01 feet of LNAPL observed within bailer. Oil absorbent sock placed in well.
MW-129-R	12.92	8/30/2019	10:45	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	No measurable LNAPL. Sock presented with hydrocarbon like odor.
MW-129-R	12.92	9/5/2019	16:08	n.m.	DPE-18	8	6.85	--	6.07	1.1	No measurable LNAPL. Sock left in place.
MW-129-R	12.92	9/9/2019	12:50	n.m.	DPE-18	8	6.74	--	6.18	0.99	No measurable LNAPL. Sock removed.
MW-129-R	12.92	9/16/2019	12:30	n.m.	DPE-18	8	5.68	--	7.24	-0.07	No measurable LNAPL.
MW-129-R	12.92	9/20/2019	11:40	n.m.	DPE-18	8	5.68	--	7.24	-0.07	No measurable LNAPL. Oil absorbent sock placed in well.
MW-129-R	12.92	9/24/2019	10:50	n.m.	DPE-18	8	7.27	--	5.65	1.52	No measurable LNAPL.
MW-129-R	12.92	10/10/2019	16:30	n.m.	DPE-18	8	6.48	--	6.44	0.73	No measurable LNAPL.
MW-129-R	12.92	10/17/2019	12:30	n.m.	DPE-18	8	5.88	--	7.04	0.13	No measurable LNAPL. Sock removed.
MW-129-R	12.92	10/22/2019	9:00	n.m.	DPE-18	8	5.78	--	7.14	0.03	No evidence of LNAPL.
MW-129-R	12.92	10/31/2019	10:15	n.m.	DPE-18	8	5.72	--	7.20	-0.03	No evidence of LNAPL.
MW-129-R	12.92	11/7/2019	14:12	n.m.	DPE-18	8	5.82	--	7.10	0.07	No evidence of LNAPL.
MW-129-R	12.92	11/14/2019	9:30	n.m.	DPE-18	8	5.78	--	7.14	0.03	No evidence of LNAPL.
MW-129-R	12.92	11/21/2019	11:20	n.m.	DPE-18	8	6.32	--	6.60	0.57	No evidence of LNAPL.
MW-129-R	12.92	11/25/2019	9:45	n.m.	DPE-18	8	5.82	--	7.10	0.07	No evidence of LNAPL.
MW-129-R	12.92	12/2/2019	12:50	n.m.	DPE-18	8	5.80	--	7.12	0.05	No evidence of LNAPL.
MW-129-R	12.92	12/10/2019	10:08	n.m.	DPE-18	8	5.76	--	7.16	0.01	No evidence of LNAPL. End weekly gauging
MW-129-R	12.92	2/13/2020	10:25	n.m.	DPE-18	8	7.95	--	4.97	2.2	DPE system testing
MW-129-R	12.92	2/24/2020	11:11	n.m.	DPE-18	8	7.53	7.47	5.39	1.78	Measurable LNAPL. Oil absorbent sock placed in well. Begin weekly gauging.
MW-129-R	12.92	2/28/2020	15:27	0.0	DPE-18	8	7.20	--	5.72	1.45	No measurable LNAPL.
MW-129-R	12.92	3/2/2020	15:50	n.m.	DPE-18	8	5.85	--	7.07	0.1	No measurable LNAPL. Sock replaced.
MW-129-R	12.92	3/10/2020	14:00	n.m.	DPE-18	8	5.50	--	7.42	-0.25	No measurable LNAPL. Sock removed.
MW-129-R	12.92	3/12/2020	13:45	n.m.	DPE-18	8	5.40	--	7.52	-0.35	No evidence of LNAPL.
MW-129-R	12.92	3/18/2020	10:49	n.m.	DPE-18	8	7.21	--	5.71	1.46	Evidence of LNAPL.
MW-129-R	12.92	3/25/2020	15:15	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	Oil absorbent sock placed in well.
MW-129-R	12.92	3/27/2020	13:20	n.m.	DPE-18	8	5.55	--	7.37	-0.2	No measurable LNAPL.
MW-129-R	12.92	3/31/2020	11:05	n.m.	DPE-18	8	6.32	--	6.60	0.57	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with minimal discoloration. Depth of sock adjusted.
MW-129-R	12.92	4/6/2020	12:55	n.m.	DPE-18	8	6.59	--	6.33	0.84	No measurable LNAPL.
MW-129-R	12.92	4/13/2020	18:45	n.m.	DPE-18	8	6.04	--	6.88	0.29	No measurable LNAPL.
MW-129-R	12.92	4/17/2020	12:12	0.0	DPE-18	8	7.02	--	5.90	1.27	No evidence of LNAPL. Sock removed.
MW-129-R	12.92	4/20/2020	15:15	n.m.	DPE-18	8	6.73	--	6.19	0.98	No evidence of LNAPL.
MW-129-R	12.92	5/1/2020	17:55	n.m.	DPE-18	8	7.15	--	5.77	1.4	No evidence of LNAPL.
MW-129-R	12.92	5/6/2020	16:30	n.m.	DPE-18	8	7.36	--	5.56	1.61	No evidence of LNAPL.
MW-129-R	12.92	5/13/2020	10:00	n.m.	DPE-18	8	5.51	--	7.41	-0.24	No evidence of LNAPL.
MW-129-R	12.92	5/19/2020	13:25	0.0	DPE-18	8	7.06	--	5.86	1.31	No evidence of LNAPL.
MW-129-R	12.92	5/26/2020	16:30	n.m.	DPE-18	8	6.89	--	6.03	1.14	No evidence of LNAPL.
MW-129-R	12.92	6/6/2020	15:15	n.m.	DPE-18	8	6.95	--	5.97	1.2	No evidence of LNAPL.
MW-129-R	12.92	6/22/2020	12:30	n.m.	DPE-18	8	5.38	--	7.54	-0.37	No evidence of LNAPL.
MW-129-R	12.92	7/7/2020	10:45	n.m.	DPE-18	8	5.84	--	7.08	0.09	No evidence of LNAPL.
MW-129-R	12.92	7/13/2020	11:05	n.m.	DPE-18	8	5.58	--	7.34	-0.17	No evidence of LNAPL.
MW-129-R	12.92	8/7/2020	13:25	n.m.	DPE-18	8	6.32	--	6.60	0.57	No evidence of LNAPL.
MW-129-R	12.92	8/10/2020	10:10	n.m.	DPE-18	8	7.20	--	5.72	1.45	Potential evidence of LNAPL. Will need confirmation during next event.
MW-129-R	12.92	8/19/2020	15:25	n.m.	DPE-18	8	6.86	--	6.06	1.11	No evidence of LNAPL.
MW-129-R	12.92	9/2/2020	10:12	n.m.	DPE-18	8	7.17	--	5.75	1.42	No measurable LNAPL at 7.17 ft btoc.
MW-129-R	12.92	9/18/2020	11:50	n.m.	DPE-18	8	5.79	--	7.13	0.04	No evidence of LNAPL.
MW-129-R	12.92	7/16/2021	12:12	0.1	DPE-18	8	7.72	7.69	5.20	1.97	Evidence of LNAPL on probe and within bailer. 0.01 feet of LNAPL observed within bailer. Oil absorbent sock placed in well.
MW-129-R	12.92	7/21/2021	15:30	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	Sock inspected. Sock presented with discoloration. Sock replaced.

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-129-R	12.92	7/23/2021	10:45	n.m.	DPE-18	8	7.70	--	5.22	1.95	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	7/26/2021	11:30	n.m.	DPE-18	8	7.53	--	5.39	1.78	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	7/28/2021	12:30	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	Sock inspected. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	7/30/2021	11:40	n.m.	DPE-18	8	7.55	--	5.37	1.8	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/2/2021	13:30	n.m.	DPE-18	8	7.34	--	5.58	1.59	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/5/2021	15:00	n.m.	DPE-18	8	7.14	--	5.78	1.39	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/9/2021	11:45	n.m.	DPE-18	8	7.56	--	5.36	1.81	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/11/2021	15:10	0.2	DPE-18	8	7.30	--	5.62	1.55	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/13/2021	10:30	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/16/2021	13:30		DPE-18	8	5.96	--	6.96	0.21	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	8/23/2021	11:28	n.m.	DPE-18	8	5.75	--	7.17	0	No evidence of LNAPL. Sock removed to conduct groundwater sampling event.
MW-129-R	12.92	8/27/2021	13:00	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	No measurable LNAPL. Trace LNAPL observed on probe and bailer tip only. Oil absorbent sock placed in well.
MW-129-R	12.92	8/30/2021	12:30	n.m.	DPE-18	8	6.52	--	6.40	0.77	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/1/2021	13:00	0.4	DPE-18	8	7.71	--	5.21	1.96	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/7/2021	13:00	n.m.	DPE-18	8	7.30	--	5.62	1.55	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/10/2021	12:15	n.m.	DPE-18	8	6.32	--	6.60	0.57	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/13/2021	13:15	n.m.	DPE-18	8	6.30	--	6.62	0.55	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/15/2021	13:26	0.441	DPE-18	8	7.23	--	5.69	1.48	No measurable LNAPL. No LNAPL observed on probe or bailer tip. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/17/2021	11:55	n.m.	DPE-18	8	6.24	--	6.68	0.49	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/24/2021	13:45	n.m.	DPE-18	8	6.89	--	6.03	1.14	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	9/28/2021	14:25	n.m.	DPE-18	8	6.73	--	6.19	0.98	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with minimal discoloration. Sock removed.
MW-129-R	12.92	9/30/2021	15:15	n.m.	DPE-18	8	6.83	--	6.09	1.08	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Oil absorbent sock placed in well.
MW-129-R	12.92	10/6/2021	14:25	0.7	DPE-18	8	7.13	--	5.79	1.38	No measurable LNAPL. Trace LNAPL observed on probe. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	10/8/2021	11:45	n.m.	DPE-18	8	6.19	--	6.73	0.44	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Sock appeared with no discoloration. Sock left in place.
MW-129-R	12.92	10/11/2021	12:15	n.m.	DPE-18	8	6.30	--	6.62	0.55	No measurable LNAPL. No LNAPL observed on probe or bailer. Sock presented with discoloration. Sock replaced.
MW-129-R	12.92	10/13/2021	10:15	n.m.	DPE-18	8	5.56	--	7.36	-0.19	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
MW-129-R	12.92	10/18/2021	16:02	n.m.	DPE-18	8	7.36	--	5.56	1.61	No evidence of LNAPL.
MW-129-R	12.92	10/20/2021	12:55	n.m.	DPE-18	8	7.02	--	5.90	1.27	No evidence of LNAPL.
MW-129-R	12.92	10/25/2021	16:00	n.m.	DPE-18	8	6.17	--	6.75	0.42	No evidence of LNAPL.
MW-129-R	12.92	11/5/2021	13:45	n.m.	DPE-18	8	5.09	--	7.83	-0.66	No evidence of LNAPL.
MW-129-R	12.92	11/10/2021	12:53	n.m.	DPE-18	8	5.19	--	7.73	-0.56	No evidence of LNAPL.

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-129-R	12.92	11/12/2021	13:25	n.m.	DPE-18	8	n.g.	n.g.	n.g.	n.g.	No measurable LNAPL. Trace LNAPL observed on bailer tip only. Oil absorbent sock placed in well.
MW-129-R	12.92	11/15/2021	12:20	n.m.	DPE-18	8	5.13	--	7.79	-0.62	No evidence of LNAPL. Sock appeared with no discoloration. Sock removed.
MW-129-R	12.92	11/17/2021	15:35	n.m.	DPE-18	8	6.43	--	6.49	0.68	No evidence of LNAPL.
MW-129-R	12.92	11/19/2021	13:23	0.7	DPE-18	8	6.73	--	6.19	0.98	No evidence of LNAPL.
MW-129-R	12.92	11/22/2021	14:05	n.m.	DPE-18	8	5.74	--	7.18	-0.01	No evidence of LNAPL.
MW-129-R	12.92	11/24/2021	13:05	n.m.	DPE-18	8	6.87	--	6.05	1.12	No evidence of LNAPL.
MW-129-R	12.92	11/29/2021	15:10	n.m.	DPE-18	8	6.44	--	6.48	0.69	No evidence of LNAPL.
MW-129-R	12.92	12/1/2021	13:35	n.m.	DPE-18	8	6.50	--	6.42	0.75	No evidence of LNAPL.
MW-129-R	12.92	12/3/2021	11:33	n.m.	DPE-18	8	6.38	--	6.54	0.63	No evidence of LNAPL.
MW-129-R	12.92	12/6/2021	12:15	n.m.	DPE-18	8	6.39	--	6.53	0.64	No evidence of LNAPL.
MW-129-R	12.92	12/8/2021	12:42	n.m.	DPE-18	8	6.06	--	6.86	0.31	No evidence of LNAPL.
MW-129-R	12.92	12/16/2021	14:12	0.0	DPE-18	8	6.92	--	6.00	1.17	No evidence of LNAPL.
MW-129-R	12.92	12/20/2021	15:10	n.m.	DPE-18	8	6.27	--	6.65	0.52	No evidence of LNAPL.
MW-129-R	12.92	12/23/2021	14:50	n.m.	DPE-18	8	6.24	--	6.68	0.49	No evidence of LNAPL.
MW-143	11.94	11/28/2017	9:09	n.m.	DPE-6	30	4.17	--	7.77	n.a.	DPE system baseline event before system startup - System off
MW-143	11.94	11/30/2017	15:25	n.m.	DPE-6	30	4.38	--	7.56	n.a.	DPE system testing
MW-143	11.94	12/1/2017	15:54	n.m.	DPE-6	30	4.81	--	7.13	n.a.	DPE system startup (groundwater extraction only)
MW-143	11.94	12/5/2017	13:27	n.m.	DPE-6	30	6.22	--	5.72	n.a.	
MW-143	11.94	12/13/2017	12:00	n.m.	DPE-6	30	6.84	--	5.10	n.a.	
MW-143	11.94	12/13/2017	16:00	n.m.	DPE-6	30	5.89	--	6.05	n.a.	
MW-143	11.94	12/14/2017	14:21	n.m.	DPE-6	30	5.85	--	6.09	n.a.	
MW-143	11.94	12/20/2017	15:24	n.m.	DPE-6	30	5.79	--	6.15	n.a.	
MW-143	11.94	12/27/2017	n.a.	n.m.	DPE-6	30	n.g.	n.g.	n.g.	n.a.	Not Gauged
MW-143	11.94	1/5/2018	16:00	n.m.	DPE-6	30	6.20	--	5.74	n.a.	
MW-143	11.94	1/9/2018	15:43	n.m.	DPE-6	30	5.17	--	6.77	n.a.	
MW-143	11.94	1/18/2018	13:48	n.m.	DPE-6	30	4.84	--	7.10	n.a.	
MW-143	11.94	1/24/2018	14:55	n.m.	DPE-6	30	4.94	--	7.00	n.a.	
MW-143	11.94	2/1/2018	9:40	n.m.	DPE-6	30	6.42	--	5.52	n.a.	
MW-143	11.94	2/8/2018	9:35	n.m.	DPE-6	30	4.92	--	7.02	n.a.	
MW-143	11.94	2/13/2018	14:58	n.m.	DPE-6	30	5.15	--	6.79	n.a.	SVE off
MW-143	11.94	2/20/2018	14:47	n.m.	DPE-6	30	5.42	--	6.52	n.a.	
MW-143	11.94	2/28/2018	15:55	n.m.	DPE-6	30	6.41	--	5.53	n.a.	
MW-143	11.94	3/8/2018	14:58	n.m.	DPE-6	30	5.11	--	6.83	n.a.	
MW-143	11.94	3/14/2018	14:50	n.m.	DPE-6	30	4.99	--	6.95	n.a.	
MW-143	11.94	5/29/2018	14:47	n.m.	DPE-6	30	6.30	--	5.64	n.a.	
MW-143	11.94	6/18/2018	14:48	n.m.	DPE-6	30	6.21	--	5.73	n.a.	SVE off
MW-143	11.94	7/19/2018	16:34	n.m.	DPE-6	30	6.06	--	5.88	n.a.	
MW-143	11.94	8/7/2018	11:16	n.m.	DPE-6	30	6.55	--	5.39	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-143	11.94	10/26/2018	15:09	n.m.	DPE-6	30	5.70	--	6.24	n.a.	
MW-143	11.94	11/13/2018	15:47	n.m.	DPE-6	30	6.28	--	5.66	n.a.	
MW-143	11.94	1/29/2019	13:38	n.m.	DPE-6	30	3.99	--	7.95	n.a.	
MW-143	11.94	2/21/2019	11:33	n.m.	DPE-6	30	4.29	--	7.65	n.a.	
MW-143	11.94	3/14/2019	13:30	n.m.	DPE-6	30	4.82	--	7.12	n.a.	
MW-143	11.94	4/11/2019	13:05	n.m.	DPE-6	30	4.78	--	7.16	n.a.	
MW-143	11.94	5/9/2019	14:35	n.m.	DPE-6	30	5.45	--	6.49	n.a.	
MW-143	11.94	6/6/2019	13:47	n.m.	DPE-6	30	5.80	--	6.14	n.a.	
MW-143	11.94	8/1/2019	10:09	n.m.	DPE-6	30	5.59	--	6.35	n.a.	DPE system expansion baseline event before system startup - System off
MW-143	11.94	8/15/2019	9:31	n.m.	DPE-6	30	5.69	--	6.25	n.a.	
MW-143	11.94	8/21/2019	11:12	n.m.	DPE-6	30	6.04	--	5.90	n.a.	
MW-143	11.94	9/24/2019	9:34	n.m.	DPE-6	30	6.10	--	5.84	n.a.	
MW-143	11.94	2/13/2020	9:11	n.m.	DPE-6	30	4.21	--	7.73	n.a.	DPE system testing
MW-143	11.94	2/24/2020	12:06	n.m.	DPE-6	30	5.30	--	6.64	n.a.	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-143	11.94	2/28/2020	14:02	0.0	DPE-6	30	5.32	--	6.62	n.a.	
MW-143	11.94	3/18/2020	12:38	0.0	DPE-6	30	4.90	--	7.04	n.a.	
MW-143	11.94	4/17/2020	11:16	+0.5	DPE-6	30	5.76	--	6.18	n.a.	
MW-143	11.94	5/19/2020	12:20	0.6	DPE-6	30	5.69	--	6.25	n.a.	
MW-143	11.94	8/19/2020	14:39	n.m.	DPE-6	30	6.43	--	5.51	n.a.	
MW-143	11.94	9/2/2020	11:52	n.m.	DPE-6	30	6.45	--	5.49	n.a.	
MW-143	11.94	7/16/2021	13:37	0.0	DPE-6	30	5.47	--	6.47	n.a.	
MW-143	11.94	8/11/2021	14:00	+0.3	DPE-6	30	5.90	--	6.04	n.a.	
MW-143	11.94	9/15/2021	15:32	0.0	DPE-6	30	5.62	--	6.32	n.a.	
MW-143	11.94	10/6/2021	13:24	0.4	DPE-6	30	5.63	--	6.31	n.a.	
MW-143	11.94	11/19/2021	14:01	0.8	DPE-6	30	4.14	--	7.80	n.a.	
MW-143	11.94	12/16/2021	12:36	0.0	DPE-6	30	3.86	--	8.08	n.a.	
MW-502	13.00	3/8/2018	13:35	n.m.	DPE-14	n.a.	5.33	--	7.67	n.a.	
MW-502	13.00	3/14/2018	14:00	n.m.	DPE-14	n.a.	5.32	--	7.68	n.a.	
MW-502	13.00	5/29/2018	14:05	n.m.	DPE-14	n.a.	6.44	--	6.56	n.a.	
MW-502	13.00	6/18/2018	9:57	n.m.	DPE-14	n.a.	6.58	--	6.42	n.a.	
MW-502	13.00	7/19/2018	16:00	n.m.	DPE-14	n.a.	6.20	--	6.80	n.a.	
MW-502	13.00	8/7/2018	10:40	n.m.	DPE-14	n.a.	6.91	--	6.09	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-502	13.00	10/26/2018	14:40	n.m.	DPE-14	n.a.	5.65	--	7.35	n.a.	
MW-502	13.00	11/13/2018	15:15	n.m.	DPE-14	n.a.	6.09	--	6.91	n.a.	
MW-502	13.00	1/29/2019	13:00	n.m.	DPE-14	n.a.	5.53	--	7.47	n.a.	
MW-502	13.00	2/21/2019	10:32	n.m.	DPE-14	n.a.	5.28	--	7.72	n.a.	
MW-502	13.00	3/14/2019	13:00	n.m.	DPE-14	n.a.	5.59	--	7.41	n.a.	
MW-502	13.00	4/11/2019	12:30	n.m.	DPE-14	n.a.	5.36	--	7.64	n.a.	
MW-502	13.00	5/9/2019	14:00	n.m.	DPE-14	n.a.	6.05	--	6.95	n.a.	
MW-502	13.00	6/6/2019	13:15	n.m.	DPE-14	n.a.	8.96	--	4.04	n.a.	
MW-502	13.00	8/1/2019	11:37	n.m.	DPE-14	n.a.	5.49	--	7.51	n.a.	DPE system expansion baseline event before system startup - System off
MW-502	13.00	8/15/2019	10:15	n.m.	DPE-14	n.a.	5.58	--	7.42	n.a.	
MW-502	13.00	8/21/2019	11:24	n.m.	DPE-14	n.a.	5.71	--	7.29	n.a.	
MW-502	13.00	9/24/2019	10:43	n.m.	DPE-14	n.a.	6.14	--	6.86	n.a.	
MW-502	13.00	2/13/2020	10:43	n.m.	DPE-14	n.a.	5.92	--	7.08	n.a.	DPE system testing
MW-502	13.00	2/24/2020	11:21	n.m.	DPE-14	n.a.	5.64	--	7.36	n.a.	
MW-502	13.00	2/28/2020	13:05	0.1	DPE-14	n.a.	5.66	--	7.34	n.a.	
MW-502	13.00	3/18/2020	11:21	0.0	DPE-14	n.a.	5.51	--	7.49	n.a.	
MW-502	13.00	4/17/2020	12:40	0.0	DPE-14	n.a.	5.76	--	7.24	n.a.	
MW-502	13.00	5/19/2020	13:40	0.0	DPE-14	n.a.	5.77	--	7.23	n.a.	
MW-502	13.00	8/19/2020	14:56	n.m.	DPE-14	n.a.	6.03	--	6.97	n.a.	
MW-502	13.00	9/2/2020	10:25	n.m.	DPE-14	n.a.	6.14	--	6.86	n.a.	
MW-502	13.00	7/16/2021	12:57	0.0	DPE-14	n.a.	5.44	--	7.56	n.a.	
MW-502	13.00	8/11/2021	14:55	0.0	DPE-14	n.a.	5.60	--	7.40	n.a.	
MW-502	13.00	9/15/2021	15:10	0.0	DPE-14	n.a.	5.63	--	7.37	n.a.	
MW-502	13.00	10/6/2021	14:30	0.0	DPE-14	n.a.	5.52	--	7.48	n.a.	
MW-502	13.00	11/19/2021	15:18	0.0	DPE-14	n.a.	4.68	--	8.32	n.a.	
MW-502	13.00	12/16/2021	12:58	0.0	DPE-14	n.a.	4.59	--	8.41	n.a.	
MW-503	12.22	3/8/2018	14:00	n.m.	DPE-14	n.a.	5.18	--	7.04	n.a.	
MW-503	12.22	3/14/2018	14:04	n.m.	DPE-14	n.a.	5.22	--	7.00	n.a.	
MW-503	12.22	5/29/2018	14:00	n.m.	DPE-14	n.a.	5.94	--	6.28	n.a.	
MW-503	12.22	6/18/2018	10:00	n.m.	DPE-14	n.a.	5.87	--	6.35	n.a.	
MW-503	12.22	7/19/2018	16:03	n.m.	DPE-14	n.a.	5.79	--	6.43	n.a.	
MW-503	12.22	8/7/2018	10:42	n.m.	DPE-14	n.a.	6.20	--	6.02	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-503	12.22	10/26/2018	14:43	n.m.	DPE-14	n.a.	5.32	--	6.90	n.a.	
MW-503	12.22	11/13/2018	15:17	n.m.	DPE-14	n.a.	5.42	--	6.80	n.a.	
MW-503	12.22	1/29/2019	13:02	n.m.	DPE-14	n.a.	5.40	--	6.82	n.a.	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-503	12.22	2/21/2019	10:35	n.m.	DPE-14	n.a.	4.88	--	7.34	n.a.	
MW-503	12.22	3/14/2019	13:03	n.m.	DPE-14	n.a.	5.33	--	6.89	n.a.	
MW-503	12.22	4/11/2019	12:33	n.m.	DPE-14	n.a.	5.15	--	7.07	n.a.	
MW-503	12.22	5/9/2019	14:03	n.m.	DPE-14	n.a.	5.50	--	6.72	n.a.	
MW-503	12.22	6/6/2019	13:17	n.m.	DPE-14	n.a.	5.52	--	6.70	n.a.	
MW-503	12.22	8/1/2019	11:35	n.m.	DPE-14	n.a.	5.24	--	6.98	n.a.	DPE system expansion baseline event before system startup - System off
MW-503	12.22	8/15/2019	10:17	n.m.	DPE-14	n.a.	5.35	--	6.87	n.a.	
MW-503	12.22	8/21/2019	11:28	n.m.	DPE-14	n.a.	5.50	--	6.72	n.a.	
MW-503	12.22	9/24/2019	10:45	n.m.	DPE-14	n.a.	5.58	--	6.64	n.a.	
MW-503	12.22	2/13/2020	10:48	n.m.	DPE-14	n.a.	5.15	--	7.07	n.a.	DPE system testing
MW-503	12.22	2/24/2020	11:15	n.m.	DPE-14	n.a.	5.59	--	6.63	n.a.	
MW-503	12.22	2/28/2020	13:07	0.0	DPE-14	n.a.	5.65	--	6.57	n.a.	
MW-503	12.22	3/18/2020	10:35	0.0	DPE-14	n.a.	5.37	--	6.85	n.a.	
MW-503	12.22	4/17/2020	12:25	0.0	DPE-14	n.a.	5.51	--	6.71	n.a.	
MW-503	12.22	5/19/2020	13:35	0.0	DPE-14	n.a.	5.46	--	6.76	n.a.	
MW-503	12.22	8/19/2020	15:01	n.m.	DPE-14	n.a.	5.58	--	6.64	n.a.	
MW-503	12.22	9/2/2020	10:18	n.m.	DPE-14	n.a.	5.72	--	6.50	n.a.	
MW-503	12.22	7/16/2021	12:39	0.0	DPE-14	n.a.	5.38	--	6.84	n.a.	
MW-503	12.22	8/11/2021	15:00	0.0	DPE-14	n.a.	5.59	--	6.63	n.a.	
MW-503	12.22	9/15/2021	15:15	0.0	DPE-14	n.a.	5.35	--	6.87	n.a.	
MW-503	12.22	10/6/2021	14:37	0.0	DPE-14	n.a.	5.16	--	7.06	n.a.	
MW-503	12.22	11/19/2021	15:24	0.0	DPE-14	n.a.	4.71	--	7.51	n.a.	
MW-503	12.22	12/16/2021	13:05	0.0	DPE-14	n.a.	4.64	--	7.58	n.a.	
MW-511	15.20	11/28/2017	10:25	n.m.	DPE-11	52	7.24	--	7.96	n.a.	DPE system baseline event before system startup - System off
MW-511	15.20	11/30/2017	16:13	n.m.	DPE-11	52	7.51	--	7.69	n.a.	DPE system testing
MW-511	15.20	12/1/2017	15:29	n.m.	DPE-11	52	7.45	--	7.75	n.a.	DPE system startup (groundwater extraction only) - DPE-11 off
MW-511	15.20	12/5/2017	12:51	n.m.	DPE-11	52	8.48	--	6.72	n.a.	DPE-11 off
MW-511	15.20	12/13/2017	11:27	n.m.	DPE-11	52	9.10	--	6.10	n.a.	DPE-11 repaired
MW-511	15.20	12/13/2017	15:20	n.m.	DPE-11	52	9.16	--	6.04	n.a.	
MW-511	15.20	12/14/2017	13:20	n.m.	DPE-11	52	9.35	--	5.85	n.a.	
MW-511	15.20	12/20/2017	14:45	n.m.	DPE-11	52	9.15	--	6.05	n.a.	
MW-511	15.20	12/27/2017	12:30	n.m.	DPE-11	52	9.67	--	5.53	n.a.	
MW-511	15.20	1/5/2018	15:35	n.m.	DPE-11	52	9.04	--	6.16	n.a.	
MW-511	15.20	1/9/2018	14:30	n.m.	DPE-11	52	8.63	--	6.57	n.a.	
MW-511	15.20	1/18/2018	13:14	n.m.	DPE-11	52	8.45	--	6.75	n.a.	
MW-511	15.20	1/24/2018	14:25	n.m.	DPE-11	52	8.41	--	6.79	n.a.	
MW-511	15.20	2/1/2018	9:15	n.m.	DPE-11	52	9.22	--	5.98	n.a.	
MW-511	15.20	2/8/2018	8:35	n.m.	DPE-11	52	8.12	--	7.08	n.a.	DPE-11 off
MW-511	15.20	2/13/2018	14:38	n.m.	DPE-11	52	8.12	--	7.08	n.a.	SVE off
MW-511	15.20	2/20/2018	14:20	n.m.	DPE-11	52	8.35	--	6.85	n.a.	
MW-511	15.20	2/28/2018	15:15	n.m.	DPE-11	52	8.64	--	6.56	n.a.	DPE-11 off
MW-511	15.20	3/8/2018	14:20	n.m.	DPE-11	52	8.21	--	6.99	n.a.	DPE-11 off
MW-511	15.20	3/14/2018	14:20	n.m.	DPE-11	52	8.09	--	7.11	n.a.	DPE-11 off
MW-511	15.20	5/29/2018	14:20	n.m.	DPE-11	52	9.19	--	6.01	n.a.	
MW-511	15.20	6/18/2018	10:05	n.m.	DPE-11	52	9.13	--	6.07	n.a.	
MW-511	15.20	7/19/2018	16:16	n.m.	DPE-11	52	8.80	--	6.40	n.a.	
MW-511	15.20	8/7/2018	10:55	n.m.	DPE-11	52	9.50	--	5.70	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-511	15.20	10/26/2018	14:52	n.m.	DPE-11	52	8.41	--	6.79	n.a.	
MW-511	15.20	11/13/2018	15:30	n.m.	DPE-11	52	8.76	--	6.44	n.a.	
MW-511	15.20	1/29/2019	13:13	n.m.	DPE-11	52	8.10	--	7.10	n.a.	
MW-511	15.20	2/21/2019	11:00	n.m.	DPE-11	52	7.95	--	7.25	n.a.	
MW-511	15.20	3/14/2019	13:05	n.m.	DPE-11	52	8.32	--	6.88	n.a.	
MW-511	15.20	4/11/2019	12:45	n.m.	DPE-11	52	8.11	--	7.09	n.a.	



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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-511	15.20	5/9/2019	14:13	n.m.	DPE-11	52	8.82	--	6.38	n.a.	
MW-511	15.20	6/6/2019	13:25	n.m.	DPE-11	52	8.83	--	6.37	n.a.	
MW-511	15.20	8/1/2019	10:30	n.m.	DPE-11	52	8.14	--	7.06	n.a.	DPE system expansion baseline event before system startup - System off
MW-511	15.20	8/15/2019	10:04	n.m.	DPE-11	52	8.24	--	6.96	n.a.	
MW-511	15.20	8/21/2019	11:04	n.m.	DPE-11	52	8.49	--	6.71	n.a.	
MW-511	15.20	9/24/2019	10:30	n.m.	DPE-11	52	8.80	--	6.40	n.a.	
MW-511	15.20	2/13/2020	10:55	n.m.	DPE-11	52	7.66	--	7.54	n.a.	DPE system testing
MW-511	15.20	2/24/2020	11:30	n.m.	DPE-11	52	8.39	--	6.81	n.a.	
MW-511	15.20	2/28/2020	13:37	-0.1	DPE-11	52	8.62	--	6.58	n.a.	
MW-511	15.20	3/18/2020	11:14	0.0	DPE-11	52	8.36	--	6.84	n.a.	
MW-511	15.20	4/17/2020	13:52	0.0	DPE-11	52	8.71	--	6.49	n.a.	
MW-511	15.20	5/19/2020	13:50	0.1	DPE-11	52	8.61	--	6.59	n.a.	
MW-511	15.20	8/19/2020	15:20	n.m.	DPE-11	52	8.92	--	6.28	n.a.	
MW-511	15.20	9/2/2020	10:35	n.m.	DPE-11	52	8.99	--	6.21	n.a.	
MW-511	15.20	7/16/2021	13:04	0.0	DPE-11	52	8.11	--	7.09	n.a.	
MW-511	15.20	8/11/2021	14:40	0.0	DPE-11	52	8.30	--	6.90	n.a.	
MW-511	15.20	9/15/2021	15:02	0.0	DPE-11	52	8.29	--	6.91	n.a.	
MW-511	15.20	10/6/2021	14:43	0.3	DPE-11	52	8.22	--	6.98	n.a.	
MW-511	15.20	11/19/2021	15:07	0.0	DPE-11	52	7.15	--	8.05	n.a.	
MW-511	15.20	12/16/2021	13:16	0.0	DPE-11	52	7.09	--	8.11	n.a.	
MW-512	13.19	11/28/2017	10:22	n.m.	DPE-11	38	6.21	--	6.98	n.a.	DPE system baseline event before system startup - System off
MW-512	13.19	11/30/2017	16:18	n.m.	DPE-11	38	6.24	--	6.95	0.03	DPE system testing
MW-512	13.19	12/1/2017	15:28	n.m.	DPE-11	38	6.30	--	6.89	0.09	DPE system startup (groundwater extraction only) - DPE-11 off
MW-512	13.19	12/5/2017	12:39	n.m.	DPE-11	38	6.51	--	6.68	0.30	DPE-11 off
MW-512	13.19	12/13/2017	11:30	n.m.	DPE-11	38	6.94	--	6.25	0.73	DPE-11 repaired
MW-512	13.19	12/13/2017	15:18	n.m.	DPE-11	38	6.95	--	6.24	0.74	
MW-512	13.19	12/14/2017	13:08	n.m.	DPE-11	38	6.99	--	6.20	0.78	
MW-512	13.19	12/20/2017	14:42	n.m.	DPE-11	38	6.16	--	7.03	-0.05	
MW-512	13.19	12/27/2017	12:20	n.m.	DPE-11	38	6.88	--	6.31	0.67	
MW-512	13.19	1/5/2018	15:28	n.m.	DPE-11	38	6.61	--	6.58	0.40	
MW-512	13.19	1/9/2018	14:22	n.m.	DPE-11	38	6.44	--	6.75	0.23	
MW-512	13.19	1/18/2018	13:22	n.m.	DPE-11	38	6.10	--	7.09	-0.11	
MW-512	13.19	1/24/2018	14:14	n.m.	DPE-11	38	6.14	--	7.05	-0.07	
MW-512	13.19	2/1/2018	9:10	n.m.	DPE-11	38	6.45	--	6.74	0.24	
MW-512	13.19	2/8/2018	8:45	n.m.	DPE-11	38	6.62	--	6.57	0.41	DPE-11 off
MW-512	13.19	2/13/2018	14:45	n.m.	DPE-11	38	6.75	--	6.44	0.54	SVE off
MW-512	13.19	2/20/2018	14:30	n.m.	DPE-11	38	6.85	--	6.34	0.64	
MW-512	13.19	2/28/2018	15:25	n.m.	DPE-11	38	6.87	--	6.32	0.66	DPE-11 off
MW-512	13.19	3/8/2018	14:30	n.m.	DPE-11	38	6.54	--	6.65	0.33	DPE-11 off
MW-512	13.19	3/14/2018	14:28	n.m.	DPE-11	38	6.56	--	6.63	0.35	DPE-11 off
MW-512	13.19	5/29/2018	14:25	n.m.	DPE-11	38	7.12	--	6.07	0.91	
MW-512	13.19	6/18/2018	10:03	n.m.	DPE-11	38	7.01	--	6.18	0.80	
MW-512	13.19	7/19/2018	16:18	n.m.	DPE-11	38	6.98	--	6.21	0.77	
MW-512	13.19	8/7/2018	10:59	n.m.	DPE-11	38	7.57	--	5.62	1.36	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-512	13.19	10/26/2018	14:56	n.m.	DPE-11	38	6.74	--	6.45	0.53	
MW-512	13.19	11/13/2018	15:32	n.m.	DPE-11	38	7.00	--	6.19	0.79	
MW-512	13.19	1/29/2019	13:18	n.m.	DPE-11	38	6.68	--	6.51	0.47	
MW-512	13.19	2/21/2019	11:05	n.m.	DPE-11	38	6.45	--	6.74	0.24	
MW-512	13.19	3/14/2019	13:13	n.m.	DPE-11	38	6.64	--	6.55	0.43	
MW-512	13.19	4/11/2019	12:48	n.m.	DPE-11	38	6.12	--	7.07	-0.09	
MW-512	13.19	5/9/2019	14:14	n.m.	DPE-11	38	6.81	--	6.38	0.60	
MW-512	13.19	6/6/2019	13:29	n.m.	DPE-11	38	6.82	--	6.37	0.61	
MW-512	13.19	8/1/2019	11:57	n.m.	DPE-11	38	6.56	--	6.63	0.35	DPE system expansion baseline event before system startup - System 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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-512	13.19	8/15/2019	10:39	n.m.	DPE-11	38	6.69	--	6.50	0.48	
MW-512	13.19	8/21/2019	11:13	n.m.	DPE-11	38	6.89	--	6.30	0.68	
MW-512	13.19	9/24/2019	10:12	n.m.	DPE-11	38	6.81	--	6.38	0.60	
MW-512	13.19	2/13/2020	10:58	n.m.	DPE-11	38	6.52	--	6.67	0.31	DPE system testing
MW-512	13.19	2/24/2020	11:25	n.m.	DPE-11	38	6.92	--	6.27	0.71	
MW-512	13.19	2/28/2020	13:40	0.0	DPE-11	38	7.02	--	6.17	0.81	
MW-512	13.19	3/18/2020	11:00	0.0	DPE-11	38	6.67	--	6.52	0.46	
MW-512	13.19	4/17/2020	13:29	+0.1	DPE-11	38	6.82	--	6.37	0.61	
MW-512	13.19	5/19/2020	14:25	0.0	DPE-11	38	6.76	--	6.43	0.55	
MW-512	13.19	8/19/2020	15:08	n.m.	DPE-11	38	6.91	--	6.28	0.70	
MW-512	13.19	9/2/2020	10:41	n.m.	DPE-11	38	7.03	--	6.16	0.82	
MW-512	13.19	7/16/2021	13:14	0.0	DPE-11	38	6.70	--	6.49	0.49	
MW-512	13.19	8/11/2021	15:15	0.0	DPE-11	38	6.79	--	6.40	0.58	
MW-512	13.19	9/15/2021	14:58	0.0	DPE-11	38	6.81	--	6.38	0.60	
MW-512	13.19	10/6/2021	14:50	0.1	DPE-11	38	6.60	--	6.59	0.39	
MW-512	13.19	11/19/2021	14:56	0.0	DPE-11	38	6.05	--	7.14	-0.16	
MW-512	13.19	12/16/2021	13:30	0.0	DPE-11	38	5.97	--	7.22	-0.24	
MW-514	11.39	3/8/2018	14:35	n.m.	DPE-11	n.a.	4.71	--	6.68	n.a.	
MW-514	11.39	3/14/2018	14:30	n.m.	DPE-11	n.a.	4.78	--	6.61	n.a.	
MW-514	11.39	5/29/2018	14:30	n.m.	DPE-11	n.a.	5.30	--	6.09	n.a.	
MW-514	11.39	6/18/2018	10:09	n.m.	DPE-11	n.a.	5.18	--	6.21	n.a.	
MW-514	11.39	7/19/2018	16:20	n.m.	DPE-11	n.a.	5.19	--	6.20	n.a.	
MW-514	11.39	8/7/2018	11:02	n.m.	DPE-11	n.a.	5.62	--	5.77	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-514	11.39	10/26/2018	14:59	n.m.	DPE-11	n.a.	4.91	--	6.48	n.a.	
MW-514	11.39	11/13/2018	15:30	n.m.	DPE-11	n.a.	5.16	--	6.23	n.a.	
MW-514	11.39	1/29/2019	13:20	n.m.	DPE-11	n.a.	4.82	--	6.57	n.a.	
MW-514	11.39	2/21/2019	11:10	n.m.	DPE-11	n.a.	4.62	--	6.77	n.a.	
MW-514	11.39	3/14/2019	13:15	n.m.	DPE-11	n.a.	4.86	--	6.53	n.a.	
MW-514	11.39	4/11/2019	12:51	n.m.	DPE-11	n.a.	4.74	--	6.65	n.a.	
MW-514	11.39	5/9/2019	14:17	n.m.	DPE-11	n.a.	4.96	--	6.43	n.a.	
MW-514	11.39	6/6/2019	13:32	n.m.	DPE-11	n.a.	4.96	--	6.43	n.a.	
MW-514	11.39	8/1/2019	11:58	n.m.	DPE-11	n.a.	4.72	--	6.67	n.a.	DPE system expansion baseline event before system startup - System off
MW-514	11.39	8/15/2019	10:37	n.m.	DPE-11	n.a.	4.85	--	6.54	n.a.	
MW-514	11.39	8/21/2019	11:35	n.m.	DPE-11	n.a.	5.03	--	6.36	n.a.	
MW-514	11.39	9/24/2019	10:14	n.m.	DPE-11	n.a.	4.98	--	6.41	n.a.	
MW-514	11.39	2/13/2020	11:02	n.m.	DPE-11	n.a.	5.67	--	5.72	n.a.	DPE system testing
MW-514	11.39	2/24/2020	11:36	n.m.	DPE-11	n.a.	5.07	--	6.32	n.a.	
MW-514	11.39	2/28/2020	15:12	0.0	DPE-11	n.a.	5.20	--	6.19	n.a.	
MW-514	11.39	3/18/2020	11:05	0.0	DPE-11	n.a.	4.84	--	6.55	n.a.	
MW-514	11.39	4/17/2020	13:36	0.0	DPE-11	n.a.	4.99	--	6.40	n.a.	
MW-514	11.39	5/19/2020	14:30	0.0	DPE-11	n.a.	4.92	--	6.47	n.a.	
MW-514	11.39	8/19/2020	15:14	n.m.	DPE-11	n.a.	5.52	--	5.87	n.a.	
MW-514	11.39	9/2/2020	11:33	n.m.	DPE-11	n.a.	5.21	--	6.18	n.a.	
MW-514	11.39	7/16/2021	13:18	0.0	DPE-11	n.a.	4.86	--	6.53	n.a.	
MW-514	11.39	8/11/2021	15:20	0.0	DPE-11	n.a.	4.94	--	6.45	n.a.	
MW-514	11.39	9/15/2021	15:28	0.0	DPE-11	n.a.	4.95	--	6.44	n.a.	
MW-514	11.39	10/6/2021	14:58	0.1	DPE-11	n.a.	4.75	--	6.64	n.a.	
MW-514	11.39	11/19/2021	15:04	0.0	DPE-11	n.a.	4.20	--	7.19	n.a.	
MW-514	11.39	12/16/2021	13:33	0.0	DPE-11	n.a.	4.13	--	7.26	n.a.	
MW-518	14.60	8/1/2019	11:52	n.m.	DPE-16	8	8.59	--	6.01	n.a.	DPE system expansion baseline event before system startup - System off
MW-518	14.60	8/15/2019	10:33	n.m.	DPE-16	8	9.55	--	5.05	0.96	
MW-518	14.60	8/21/2019	10:36	n.m.	DPE-16	8	9.62	--	4.98	1.03	
MW-518	14.60	9/24/2019	10:26	n.m.	DPE-16	8	9.95	--	4.65	1.36	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-518	14.60	2/13/2020	9:51	n.m.	DPE-16	8	9.06	--	5.54	0.47	DPE system testing
MW-518	14.60	2/24/2020	10:59	n.m.	DPE-16	8	9.71	--	4.89	1.12	
MW-518	14.60	2/28/2020	15:00	0.0	DPE-16	8	9.85	--	4.75	1.26	
MW-518	14.60	3/18/2020	13:04	2.0	DPE-16	8	9.42	--	5.18	0.83	
MW-518	14.60	4/17/2020	11:56	1.4	DPE-16	8	9.81	--	4.79	1.22	
MW-518	14.60	5/19/2020	13:10	1.1	DPE-16	8	9.66	--	4.94	1.07	
MW-518	14.60	8/19/2020	14:27	n.m.	DPE-16	8	9.92	--	4.68	1.33	
MW-518	14.60	9/2/2020	10:47	n.m.	DPE-16	8	9.86	--	4.74	1.27	
MW-518	14.60	7/16/2021	11:53	2.3	DPE-16	8	9.44	--	5.16	0.85	
MW-518	14.60	8/11/2021	13:40	0.9	DPE-16	8	9.72	--	4.88	1.13	
MW-518	14.60	9/15/2021	15:47	0.9	DPE-16	8	9.35	--	5.25	0.76	
MW-518	14.60	10/6/2021	13:13	1.5	DPE-16	8	9.27	--	5.33	0.68	
MW-518	14.60	11/19/2021	13:37	0.1	DPE-16	8	8.43	--	6.17	-0.16	
MW-518	14.60	12/16/2021	13:36	0.0	DPE-16	8	8.31	--	6.29	-0.28	
MW-519	12.60	11/28/2017	9:04	n.m.	DPE-6	62	6.71	--	5.89	n.a.	DPE system baseline event before system startup - System off
MW-519	12.60	11/30/2017	15:32	n.m.	DPE-6	62	5.98	--	6.62	n.a.	DPE system testing
MW-519	12.60	12/1/2017	15:49	n.m.	DPE-6	62	6.10	--	6.50	n.a.	DPE system startup (groundwater extraction only)
MW-519	12.60	12/5/2017	13:23	n.m.	DPE-6	62	6.76	--	5.84	n.a.	
MW-519	12.60	12/13/2017	11:58	n.m.	DPE-6	62	7.35	--	5.25	n.a.	
MW-519	12.60	12/13/2017	15:56	n.m.	DPE-6	62	7.32	--	5.28	n.a.	
MW-519	12.60	12/14/2017	14:17	n.m.	DPE-6	62	7.39	--	5.21	n.a.	
MW-519	12.60	12/20/2017	15:22	n.m.	DPE-6	62	6.71	--	5.89	n.a.	
MW-519	12.60	12/27/2017	n.a.	n.m.	DPE-6	62	n.g.	n.g.	n.g.	n.a.	Not Gauged
MW-519	12.60	1/5/2018	15:57	n.m.	DPE-6	62	6.90	--	5.70	n.a.	
MW-519	12.60	1/9/2018	15:40	n.m.	DPE-6	62	9.25	--	3.35	n.a.	
MW-519	12.60	1/18/2018	13:44	n.m.	DPE-6	62	6.10	--	6.50	n.a.	
MW-519	12.60	1/24/2018	14:52	n.m.	DPE-6	62	5.83	--	6.77	n.a.	
MW-519	12.60	2/1/2018	9:38	n.m.	DPE-6	62	6.49	--	6.11	n.a.	
MW-519	12.60	2/8/2018	9:33	n.m.	DPE-6	62	6.75	--	5.85	n.a.	
MW-519	12.60	2/13/2018	14:56	n.m.	DPE-6	62	7.13	--	5.47	n.a.	SVE off
MW-519	12.60	2/20/2018	14:46	n.m.	DPE-6	62	7.22	--	5.38	n.a.	
MW-519	12.60	2/28/2018	15:52	n.m.	DPE-6	62	7.43	--	5.17	n.a.	
MW-519	12.60	3/8/2018	14:55	n.m.	DPE-6	62	7.15	--	5.45	n.a.	
MW-519	12.60	3/14/2018	14:47	n.m.	DPE-6	62	7.00	--	5.60	n.a.	
MW-519	12.60	5/29/2018	14:39	n.m.	DPE-6	62	7.29	--	5.31	n.a.	
MW-519	12.60	6/18/2018	14:45	n.m.	DPE-6	62	7.30	--	5.30	n.a.	SVE off
MW-519	12.60	7/19/2018	16:32	n.m.	DPE-6	62	7.14	--	5.46	n.a.	
MW-519	12.60	8/7/2018	11:14	n.m.	DPE-6	62	7.34	--	5.26	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-519	12.60	10/26/2018	15:07	n.m.	DPE-6	62	7.02	--	5.58	n.a.	
MW-519	12.60	11/13/2018	15:45	n.m.	DPE-6	62	7.42	--	5.18	n.a.	
MW-519	12.60	1/29/2019	13:34	n.m.	DPE-6	62	6.81	--	5.79	n.a.	
MW-519	12.60	2/21/2019	11:24	n.m.	DPE-6	62	6.52	--	6.08	n.a.	
MW-519	12.60	3/14/2019	13:26	n.m.	DPE-6	62	7.11	--	5.49	n.a.	
MW-519	12.60	4/11/2019	13:01	n.m.	DPE-6	62	6.52	--	6.08	n.a.	
MW-519	12.60	5/9/2019	14:30	n.m.	DPE-6	62	7.30	--	5.30	n.a.	
MW-519	12.60	6/6/2019	13:45	n.m.	DPE-6	62	7.31	--	5.29	n.a.	
MW-519	12.60	8/1/2019	10:13	n.m.	DPE-6	62	7.01	--	5.59	n.a.	DPE system expansion baseline event before system startup - System off
MW-519	12.60	8/15/2019	9:21	n.m.	DPE-6	62	7.11	--	5.49	n.a.	
MW-519	12.60	8/21/2019	11:07	n.m.	DPE-6	62	7.39	--	5.21	n.a.	
MW-519	12.60	9/24/2019	9:30	n.m.	DPE-6	62	7.25	--	5.35	n.a.	
MW-519	12.60	2/13/2020	11:23	n.m.	DPE-6	62	6.73	--	5.87	n.a.	DPE system testing
MW-519	12.60	2/24/2020	11:44	n.m.	DPE-6	62	7.33	--	5.27	n.a.	
MW-519	12.60	2/28/2020	14:25	-0.4	DPE-6	62	7.60	--	5.00	n.a.	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-519	12.60	3/18/2020	12:11	0.0	DPE-6	62	7.19	--	5.41	n.a.	
MW-519	12.60	4/17/2020	11:21	0.3	DPE-6	62	7.61	--	4.99	n.a.	
MW-519	12.60	5/19/2020	12:25	0.0	DPE-6	62	7.04	--	5.56	n.a.	
MW-519	12.60	8/19/2020	14:44	n.m.	DPE-6	62	7.56	--	5.04	n.a.	
MW-519	12.60	9/2/2020	11:23	n.m.	DPE-6	62	7.57	--	5.03	n.a.	
MW-519	12.60	7/16/2021	13:26	0.0	DPE-6	62	7.18	--	5.42	n.a.	
MW-519	12.60	8/11/2021	14:05	0.0	DPE-6	62	7.30	--	5.30	n.a.	
MW-519	12.60	9/15/2021	15:35	0.5	DPE-6	62	7.42	--	5.18	n.a.	
MW-519	12.60	10/6/2021	13:03	0.4	DPE-6	62	7.27	--	5.33	n.a.	
MW-519	12.60	11/19/2021	13:55	0.0	DPE-6	62	6.15	--	6.45	n.a.	
MW-519	12.60	12/16/2021	13:47	0.0	DPE-6	62	5.85	--	6.75	n.a.	
MW-520	13.31	3/8/2018	14:50	n.m.	DPE-5	n.a.	7.83	--	5.48	n.a.	
MW-520	13.31	3/14/2018	14:42	n.m.	DPE-5	n.a.	7.70	--	5.61	n.a.	
MW-520	13.31	5/29/2018	14:42	n.m.	DPE-5	n.a.	7.97	--	5.34	n.a.	
MW-520	13.31	6/18/2018	14:35	n.m.	DPE-5	n.a.	7.96	--	5.35	n.a.	SVE off
MW-520	13.31	7/19/2018	16:30	n.m.	DPE-5	n.a.	7.83	--	5.48	n.a.	
MW-520	13.31	8/7/2018	11:09	n.m.	DPE-5	n.a.	8.03	--	5.28	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-520	13.31	10/26/2018	15:03	n.m.	DPE-5	n.a.	7.71	--	5.60	n.a.	
MW-520	13.31	11/13/2018	15:41	n.m.	DPE-5	n.a.	8.10	--	5.21	n.a.	
MW-520	13.31	1/29/2019	13:28	n.m.	DPE-5	n.a.	7.49	--	5.82	n.a.	
MW-520	13.31	2/21/2019	11:31	n.m.	DPE-5	n.a.	7.21	--	6.10	n.a.	
MW-520	13.31	3/14/2019	13:22	n.m.	DPE-5	n.a.	7.82	--	5.49	n.a.	
MW-520	13.31	4/11/2019	12:57	n.m.	DPE-5	n.a.	7.21	--	6.10	n.a.	
MW-520	13.31	5/9/2019	14:25	n.m.	DPE-5	n.a.	8.05	--	5.26	n.a.	
MW-520	13.31	6/6/2019	13:42	n.m.	DPE-5	n.a.	8.05	--	5.26	n.a.	
MW-520	13.31	8/1/2019	10:36	n.m.	DPE-5	n.a.	7.71	--	5.60	n.a.	DPE system expansion baseline event before system startup - System off
MW-520	13.31	8/15/2019	9:27	n.m.	DPE-5	n.a.	7.80	--	5.51	n.a.	
MW-520	13.31	8/21/2019	10:55	n.m.	DPE-5	n.a.	8.07	--	5.24	n.a.	
MW-520	13.31	9/24/2019	9:23	n.m.	DPE-5	n.a.	7.93	--	5.38	n.a.	
MW-520	13.31	2/13/2020	11:30	n.m.	DPE-5	n.a.	7.41	--	5.90	n.a.	DPE system testing
MW-520	13.31	2/24/2020	11:46	n.m.	DPE-5	n.a.	7.98	--	5.33	n.a.	
MW-520	13.31	2/28/2020	14:28	-0.4	DPE-5	n.a.	8.25	--	5.06	n.a.	
MW-520	13.31	3/18/2020	12:02	0.0	DPE-5	n.a.	7.86	--	5.45	n.a.	
MW-520	13.31	4/17/2020	11:27	0.3	DPE-5	n.a.	8.25	--	5.06	n.a.	
MW-520	13.31	5/19/2020	12:30	0.1	DPE-5	n.a.	7.02	--	6.29	n.a.	
MW-520	13.31	8/19/2020	14:48	n.m.	DPE-5	n.a.	8.21	--	5.10	n.a.	
MW-520	13.31	9/2/2020	11:18	n.m.	DPE-5	n.a.	8.22	--	5.09	n.a.	
MW-520	13.31	7/16/2021	13:30	0.0	DPE-5	n.a.	7.87	--	5.44	n.a.	
MW-520	13.31	8/11/2021	14:10	0.0	DPE-5	n.a.	7.97	--	5.34	n.a.	
MW-520	13.31	9/15/2021	15:39	0.4	DPE-5	n.a.	8.12	--	5.19	n.a.	
MW-520	13.31	10/6/2021	12:56	0.7	DPE-5	n.a.	7.94	--	5.37	n.a.	
MW-520	13.31	11/19/2021	13:50	0.0	DPE-5	n.a.	6.66	--	6.65	n.a.	
MW-520	13.31	12/16/2021	13:45	0.0	DPE-5	n.a.	6.55	--	6.76	n.a.	
MW-521	12.18	3/8/2018	14:52	n.m.	DPE-5	n.a.	6.71	--	5.47	n.a.	
MW-521	12.18	3/14/2018	14:43	n.m.	DPE-5	n.a.	6.59	--	5.59	n.a.	
MW-521	12.18	5/29/2018	14:45	n.m.	DPE-5	n.a.	6.90	--	5.28	n.a.	
MW-521	12.18	6/18/2018	14:38	n.m.	DPE-5	n.a.	6.87	--	5.31	n.a.	SVE off
MW-521	12.18	7/19/2018	16:40	n.m.	DPE-5	n.a.	6.71	--	5.47	n.a.	
MW-521	12.18	8/7/2018	11:12	n.m.	DPE-5	n.a.	6.95	--	5.23	n.a.	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-521	12.18	10/26/2018	15:05	n.m.	DPE-5	n.a.	6.61	--	5.57	n.a.	
MW-521	12.18	11/13/2018	15:43	n.m.	DPE-5	n.a.	6.80	--	5.38	n.a.	
MW-521	12.18	1/29/2019	13:31	n.m.	DPE-5	n.a.	6.39	--	5.79	n.a.	
MW-521	12.18	2/21/2019	11:29	n.m.	DPE-5	n.a.	6.11	--	6.07	n.a.	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-521	12.18	3/14/2019	13:24	n.m.	DPE-5	n.a.	6.71	--	5.47	n.a.	
MW-521	12.18	4/11/2019	12:59	n.m.	DPE-5	n.a.	6.11	--	6.07	n.a.	
MW-521	12.18	5/9/2019	14:28	n.m.	DPE-5	n.a.	6.95	--	5.23	n.a.	
MW-521	12.18	6/6/2019	13:44	n.m.	DPE-5	n.a.	6.94	--	5.24	n.a.	
MW-521	12.18	8/1/2019	10:31	n.m.	DPE-5	n.a.	6.61	--	5.57	n.a.	DPE system expansion baseline event before system startup - System off
MW-521	12.18	8/15/2019	9:25	n.m.	DPE-5	n.a.	6.70	--	5.48	n.a.	
MW-521	12.18	8/21/2019	11:06	n.m.	DPE-5	n.a.	6.98	--	5.20	n.a.	
MW-521	12.18	9/24/2019	9:19	n.m.	DPE-5	n.a.	6.82	--	5.36	n.a.	
MW-521	12.18	2/13/2020	11:26	n.m.	DPE-5	n.a.	6.30	--	5.88	n.a.	DPE system testing
MW-521	12.18	2/24/2020	12:15	n.m.	DPE-5	n.a.	6.81	--	5.37	n.a.	
MW-521	12.18	2/28/2020	14:30	-0.4	DPE-5	n.a.	7.14	--	5.04	n.a.	
MW-521	12.18	3/18/2020	12:02	0.0	DPE-5	n.a.	6.76	--	5.42	n.a.	
MW-521	12.18	4/17/2020	11:32	0.3	DPE-5	n.a.	7.15	--	5.03	n.a.	
MW-521	12.18	5/19/2020	12:40	0.3	DPE-5	n.a.	6.62	--	5.56	n.a.	
MW-521	12.18	8/19/2020	15:37	n.m.	DPE-5	n.a.	7.12	--	5.06	n.a.	
MW-521	12.18	9/2/2020	11:07	n.m.	DPE-5	n.a.	7.13	--	5.05	n.a.	
MW-521	12.18	7/16/2021	13:33	0.0	DPE-5	n.a.	6.78	--	5.40	n.a.	
MW-521	12.18	8/11/2021	14:15	0.0	DPE-5	n.a.	6.89	--	5.29	n.a.	
MW-521	12.18	9/15/2021	15:37	0.4	DPE-5	n.a.	7.01	--	5.17	n.a.	
MW-521	12.18	10/6/2021	12:59	0.8	DPE-5	n.a.	6.83	--	5.35	n.a.	
MW-521	12.18	11/19/2021	13:52	0.0	DPE-5	n.a.	5.75	--	6.43	n.a.	
MW-521	12.18	12/16/2021	14:23	0.0	DPE-5	n.a.	5.42	--	6.76	n.a.	
MW-525	12.62	11/28/2017	9:26	n.m.	DPE-4	5	5.75	--	6.87	n.a.	DPE system baseline event before system startup - System off
MW-525	12.62	11/30/2017	15:52	n.m.	DPE-4	5	8.16	--	4.46	2.41	DPE system testing
MW-525	12.62	12/1/2017	15:39	n.m.	DPE-4	5	9.81	--	2.81	4.06	DPE system startup (groundwater extraction only)
MW-525	12.62	12/5/2017	13:30	n.m.	DPE-4	5	10.12	--	2.50	4.37	
MW-525	12.62	12/13/2017	11:48	n.m.	DPE-4	5	9.92	--	2.70	4.17	
MW-525	12.62	12/13/2017	15:44	n.m.	DPE-4	5	9.96	--	2.66	4.21	
MW-525	12.62	12/14/2017	14:09	n.m.	DPE-4	5	10.34	--	2.28	4.59	
MW-525	12.62	12/20/2017	15:03	n.m.	DPE-4	5	8.93	--	3.69	3.18	
MW-525	12.62	12/27/2017	12:05	n.m.	DPE-4	5	10.50	--	2.12	4.75	
MW-525	12.62	1/5/2018	15:46	n.m.	DPE-4	5	9.46	--	3.16	3.71	
MW-525	12.62	1/9/2018	15:26	n.m.	DPE-4	5	9.72	--	2.90	3.97	
MW-525	12.62	1/18/2018	13:38	n.m.	DPE-4	5	9.10	--	3.52	3.35	
MW-525	12.62	1/24/2018	14:45	n.m.	DPE-4	5	9.21	--	3.41	3.46	
MW-525	12.62	2/1/2018	9:33	n.m.	DPE-4	5	9.73	--	2.89	3.98	
MW-525	12.62	2/8/2018	9:05	n.m.	DPE-4	5	9.66	--	2.96	3.91	
MW-525	12.62	2/13/2018	14:47	n.m.	DPE-4	5	9.93	--	2.69	4.18	SVE off
MW-525	12.62	2/20/2018	14:35	n.m.	DPE-4	5	9.86	--	2.76	4.11	
MW-525	12.62	2/28/2018	15:40	n.m.	DPE-4	5	10.69	--	1.93	4.94	
MW-525	12.62	3/8/2018	15:11	n.m.	DPE-4	5	9.93	--	2.69	4.18	
MW-525	12.62	3/14/2018	15:05	n.m.	DPE-4	5	9.80	--	2.82	4.05	
MW-525	12.62	5/29/2018	15:26	n.m.	DPE-4	5	9.89	--	2.73	4.14	
MW-525	12.62	6/18/2018	15:04	n.m.	DPE-4	5	10.84	--	1.78	5.09	SVE off
MW-525	12.62	7/19/2018	16:46	n.m.	DPE-4	5	10.44	--	2.18	4.69	
MW-525	12.62	8/7/2018	11:26	n.m.	DPE-4	5	7.26	--	5.36	1.51	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-525	12.62	10/26/2018	15:26	n.m.	DPE-4	5	9.08	--	3.54	3.33	
MW-525	12.62	11/13/2018	15:55	n.m.	DPE-4	5	9.65	--	2.97	3.90	
MW-525	12.62	1/29/2019	13:50	n.m.	DPE-4	5	9.10	--	3.52	3.35	
MW-525	12.62	2/21/2019	11:42	n.m.	DPE-4	5	9.59	--	3.03	3.84	
MW-525	12.62	3/14/2019	13:43	n.m.	DPE-4	5	9.70	--	2.92	3.95	
MW-525	12.62	4/11/2019	13:18	n.m.	DPE-4	5	9.14	--	3.48	3.39	
MW-525	12.62	5/9/2019	14:47	n.m.	DPE-4	5	9.49	--	3.13	3.74	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-525	12.62	6/6/2019	14:01	n.m.	DPE-4	5	9.80	--	2.82	4.05	
MW-525	12.62	8/1/2019	10:52	n.m.	DPE-4	5	6.60	--	6.02	0.85	DPE system expansion baseline event before system startup - System off
MW-525	12.62	8/15/2019	9:53	n.m.	DPE-4	5	6.71	--	5.91	0.96	
MW-525	12.62	8/21/2019	11:23	n.m.	DPE-4	5	9.16	--	3.46	3.41	
MW-525	12.62	9/24/2019	9:50	n.m.	DPE-4	5	9.78	--	2.84	4.03	
MW-525	12.62	2/13/2020	11:18	n.m.	DPE-4	5	9.54	--	3.08	3.79	DPE system testing
MW-525	12.62	2/24/2020	11:45	n.m.	DPE-4	5	9.71	--	2.91	3.96	
MW-525	12.62	2/28/2020	14:12	-0.4	DPE-4	5	10.08	--	2.54	4.33	
MW-525	12.62	3/18/2020	12:18	0.0	DPE-4	5	9.51	--	3.11	3.76	
MW-525	12.62	4/17/2020	10:51	0.2	DPE-4	5	9.89	--	2.73	4.14	
MW-525	12.62	5/19/2020	15:35	0.1	DPE-4	5	9.20	--	3.42	3.45	
MW-525	12.62	8/19/2020	15:47	n.m.	DPE-4	5	9.50	--	3.12	3.75	
MW-525	12.62	9/2/2020	10:50	n.m.	DPE-4	5	9.65	--	2.97	3.90	
MW-525	12.62	7/16/2021	13:51	0.0	DPE-4	5	6.79	--	5.83	1.04	
MW-525	12.62	8/11/2021	14:20	0.3	DPE-4	5	9.37	--	3.25	3.62	
MW-525	12.62	9/15/2021	12:32	0.5	DPE-4	5	8.93	--	3.69	3.18	
MW-525	12.62	10/6/2021	13:47	0.7	DPE-4	5	8.94	--	3.68	3.19	
MW-525	12.62	11/19/2021	14:44	0.3	DPE-4	5	8.10	--	4.52	2.35	
MW-525	12.62	12/16/2021	12:42	0.0	DPE-4	5	8.03	--	4.59	2.28	
MW-526	12.90	11/28/2017	9:58	n.m.	DPE-11	10	5.03	--	7.87	n.a.	DPE system baseline event before system startup - System off
MW-526	12.90	11/30/2017	16:23	n.m.	DPE-11	10	5.69	--	7.21	0.66	DPE system testing
MW-526	12.90	12/1/2017	15:25	n.m.	DPE-11	10	6.24	--	6.66	1.21	DPE system startup (groundwater extraction only) - DPE-11 off
MW-526	12.90	12/5/2017	12:54	n.m.	DPE-11	10	5.45	--	7.45	0.42	DPE-11 off
MW-526	12.90	12/13/2017	11:22	n.m.	DPE-11	10	5.98	--	6.92	0.95	DPE-11 repaired
MW-526	12.90	12/13/2017	15:16	n.m.	DPE-11	10	6.06	--	6.84	1.03	
MW-526	12.90	12/14/2017	13:02	n.m.	DPE-11	10	5.97	--	6.93	0.94	
MW-526	12.90	12/20/2017	14:36	n.m.	DPE-11	10	6.12	--	6.78	1.09	
MW-526	12.90	12/27/2017	12:10	n.m.	DPE-11	10	6.18	--	6.72	1.15	
MW-526	12.90	1/5/2018	15:20	n.m.	DPE-11	10	6.04	--	6.86	1.01	
MW-526	12.90	1/9/2018	10:45	n.m.	DPE-11	10	6.15	--	6.75	1.12	
MW-526	12.90	1/18/2018	13:05	n.m.	DPE-11	10	6.00	--	6.90	0.97	
MW-526	12.90	1/24/2018	14:08	n.m.	DPE-11	10	6.18	--	6.72	1.15	
MW-526	12.90	2/1/2018	9:05	n.m.	DPE-11	10	5.99	--	6.91	0.96	
MW-526	12.90	2/8/2018	8:30	n.m.	DPE-11	10	5.42	--	7.48	0.39	DPE-11 off
MW-526	12.90	2/13/2018	14:40	n.m.	DPE-11	10	5.52	--	7.38	0.49	SVE off
MW-526	12.90	2/20/2018	14:15	n.m.	DPE-11	10	5.80	--	7.10	0.77	
MW-526	12.90	2/28/2018	15:10	n.m.	DPE-11	10	5.80	--	7.10	0.77	DPE-11 off
MW-526	12.90	3/8/2018	14:15	n.m.	DPE-11	10	5.60	--	7.30	0.57	DPE-11 off
MW-526	12.90	3/14/2018	14:17	n.m.	DPE-11	10	5.53	--	7.37	0.50	DPE-11 off
MW-526	12.90	5/29/2018	14:17	n.m.	DPE-11	10	6.42	--	6.48	1.39	
MW-526	12.90	6/18/2018	15:15	n.m.	DPE-11	10	6.19	--	6.71	1.16	SVE off
MW-526	12.90	7/19/2018	16:13	n.m.	DPE-11	10	6.61	--	6.29	1.58	
MW-526	12.90	8/7/2018	10:53	n.m.	DPE-11	10	7.40	--	5.50	2.37	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-526	12.90	10/26/2018	14:53	n.m.	DPE-11	10	5.85	--	7.05	0.82	
MW-526	12.90	11/13/2018	15:25	n.m.	DPE-11	10	6.23	--	6.67	1.20	
MW-526	12.90	1/29/2019	13:11	n.m.	DPE-11	10	5.56	--	7.34	0.53	
MW-526	12.90	2/21/2019	10:49	n.m.	DPE-11	10	5.11	--	7.79	0.08	
MW-526	12.90	3/14/2019	13:09	n.m.	DPE-11	10	5.76	--	7.14	0.73	
MW-526	12.90	4/11/2019	12:43	n.m.	DPE-11	10	5.69	--	7.21	0.66	
MW-526	12.90	5/9/2019	14:11	n.m.	DPE-11	10	6.15	--	6.75	1.12	
MW-526	12.90	6/6/2019	13:23	n.m.	DPE-11	10	6.25	--	6.65	1.22	
MW-526	12.90	8/1/2019	11:11	n.m.	DPE-11	10	5.64	--	7.26	0.61	DPE system expansion baseline event before system startup - System off
MW-526	12.90	8/15/2019	10:07	n.m.	DPE-11	10	5.65	--	7.25	0.62	



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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-526	12.90	8/21/2019	11:07	n.m.	DPE-11	10	5.77	--	7.13	0.74	
MW-526	12.90	9/24/2019	10:33	n.m.	DPE-11	10	6.13	--	6.77	1.10	
MW-526	12.90	9/24/2019	10:51	n.m.	DPE-11	10	4.86	--	8.04	-0.17	DPE system testing
MW-526	12.90	2/24/2020	10:55	n.m.	DPE-11	10	5.76	--	7.14	0.73	
MW-526	12.90	2/28/2020	13:33	n.m.	DPE-11	10	6.03	--	6.87	1.00	
MW-526	12.90	3/18/2020	10:24	n.m.	DPE-11	10	5.81	--	7.09	0.78	
MW-526	12.90	4/17/2020	13:43	0.0	DPE-11	10	5.99	--	6.91	0.96	
MW-526	12.90	5/19/2020	14:15	0.0	DPE-11	10	6.02	--	6.88	0.99	
MW-526	12.90	8/19/2020	15:57	n.m.	DPE-11	10	6.08	--	6.82	1.05	
MW-526	12.90	9/2/2020	10:30	n.m.	DPE-11	10	6.20	--	6.70	1.17	
MW-526	12.90	7/16/2021	13:09	0.0	DPE-11	10	5.50	--	7.40	0.47	
MW-526	12.90	8/11/2021	14:45	0.0	DPE-11	10	5.69	--	7.21	0.66	
MW-526	12.90	9/15/2021	14:59	0.0	DPE-11	10	5.77	--	7.13	0.74	
MW-526	12.90	10/6/2021	15:08	1.1	DPE-11	10	5.47	--	7.43	0.44	
MW-526	12.90	11/19/2021	14:50	0.0	DPE-11	10	4.25	--	8.65	-0.78	
MW-526	12.90	12/16/2021	13:24	0.0	DPE-11	10	4.35	--	8.55	-0.68	
MW-531	13.26	11/28/2017	9:00	n.m.	DPE-5	30	6.74	--	6.52	n.a.	DPE system baseline event before system startup - System off
MW-531	13.26	11/30/2017	15:34	n.m.	DPE-5	30	6.64	--	6.62	-0.10	DPE system testing
MW-531	13.26	12/1/2017	15:45	n.m.	DPE-5	30	6.76	--	6.50	0.02	DPE system startup (groundwater extraction only)
MW-531	13.26	12/5/2017	13:15	n.m.	DPE-5	30	7.40	--	5.86	0.66	
MW-531	13.26	12/13/2017	11:53	n.m.	DPE-5	30	7.99	--	5.27	1.25	
MW-531	13.26	12/13/2017	15:54	n.m.	DPE-5	30	7.97	--	5.29	1.23	
MW-531	13.26	12/14/2017	14:30	n.m.	DPE-5	30	8.04	--	5.22	1.30	
MW-531	13.26	12/20/2017	15:18	n.m.	DPE-5	30	7.36	--	5.90	0.62	
MW-531	13.26	12/27/2017	n.a.	n.m.	DPE-5	30	n.g.	n.g.	n.g.	n.g.	Not Gauged
MW-531	13.26	1/5/2018	15:54	n.m.	DPE-5	30	7.54	--	5.72	0.80	
MW-531	13.26	1/9/2018	15:33	n.m.	DPE-5	30	6.89	--	6.37	0.15	
MW-531	13.26	1/18/2018	13:43	n.m.	DPE-5	30	6.72	--	6.54	-0.02	
MW-531	13.26	1/24/2018	14:49	n.m.	DPE-5	30	6.49	--	6.77	-0.25	
MW-531	13.26	2/1/2018	9:50	n.m.	DPE-5	30	7.10	--	6.16	0.36	
MW-531	13.26	2/8/2018	9:29	n.m.	DPE-5	30	7.40	--	5.86	0.66	
MW-531	13.26	2/13/2018	14:54	n.m.	DPE-5	30	7.81	--	5.45	1.07	SVE off
MW-531	13.26	2/20/2018	14:44	n.m.	DPE-5	30	7.84	--	5.42	1.10	
MW-531	13.26	2/28/2018	15:50	n.m.	DPE-5	30	8.10	--	5.16	1.36	
MW-531	13.26	3/8/2018	14:47	n.m.	DPE-5	30	7.79	--	5.47	1.05	
MW-531	13.26	3/14/2018	14:59	n.m.	DPE-5	30	7.65	--	5.61	0.91	
MW-531	13.26	5/29/2018	15:11	n.m.	DPE-5	30	9.97	--	3.29	3.23	
MW-531	13.26	6/18/2018	15:01	n.m.	DPE-5	30	7.93	--	5.33	1.19	SVE off
MW-531	13.26	7/19/2018	16:39	n.m.	DPE-5	30	7.79	--	5.47	1.05	
MW-531	13.26	8/7/2018	11:21	n.m.	DPE-5	30	7.80	--	5.46	1.06	DPE/SVE Wells 11 to 14 and SVE-1 and SVE-2 on only
MW-531	13.26	10/26/2018	15:16	n.m.	DPE-5	30	7.69	--	5.57	0.95	
MW-531	13.26	11/13/2018	15:52	n.m.	DPE-5	30	8.08	--	5.18	1.34	
MW-531	13.26	1/29/2019	13:45	n.m.	DPE-5	30	7.19	--	6.07	0.45	
MW-531	13.26	2/21/2019	11:39	n.m.	DPE-5	30	7.10	--	6.16	0.36	
MW-531	13.26	3/14/2019	13:36	n.m.	DPE-5	30	7.78	--	5.48	1.04	
MW-531	13.26	4/11/2019	13:15	n.m.	DPE-5	30	7.09	--	6.17	0.35	
MW-531	13.26	5/9/2019	14:42	n.m.	DPE-5	30	7.95	--	5.31	1.21	
MW-531	13.26	6/6/2019	13:54	n.m.	DPE-5	30	7.95	--	5.31	1.21	
MW-531	13.26	8/1/2019	10:46	n.m.	DPE-5	30	7.66	--	5.60	0.92	DPE system expansion baseline event before system startup - System off
MW-531	13.26	8/15/2019	9:38	n.m.	DPE-5	30	7.76	--	5.50	1.02	
MW-531	13.26	8/21/2019	11:19	n.m.	DPE-5	30	8.02	--	5.24	1.28	
MW-531	13.26	9/24/2019	9:41	n.m.	DPE-5	30	7.87	--	5.39	1.13	
MW-531	13.26	2/13/2020	11:16	n.m.	DPE-5	30	7.35	--	5.91	0.61	DPE system testing

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-531	13.26	2/24/2020	11:52	n.m.	DPE-5	30	7.88	--	5.38	1.14	
MW-531	13.26	2/28/2020	14:16	-0.5	DPE-5	30	8.21	--	5.05	1.47	
MW-531	13.26	3/18/2020	11:58	1.0	DPE-5	30	8.81	--	4.45	2.07	
MW-531	13.26	4/17/2020	10:43	0.3	DPE-5	30	8.21	--	5.05	1.47	
MW-531	13.26	5/19/2020	15:20	0.6	DPE-5	30	7.68	--	5.58	0.94	
MW-531	13.26	8/19/2020	15:43	n.m.	DPE-5	30	8.18	--	5.08	1.44	
MW-531	13.26	9/2/2020	10:42	n.m.	DPE-5	30	8.18	--	5.08	1.44	
MW-531	13.26	7/16/2021	13:23	0.0	DPE-5	30	7.81	--	5.45	1.07	
MW-531	13.26	8/11/2021	14:30	0.0	DPE-5	30	7.92	--	5.34	1.18	
MW-531	13.26	9/15/2021	12:33	0.5	DPE-5	30	8.09	--	5.17	1.35	
MW-531	13.26	10/6/2021	13:17	1.2	DPE-5	30	7.88	--	5.38	1.14	
MW-531	13.26	11/19/2021	14:11	0.0	DPE-5	30	6.79	--	6.47	0.05	
MW-531	13.26	12/16/2021	13:48	0.0	DPE-5	30	6.50	--	6.76	-0.24	
MW-532	13.38	11/28/2017	9:16	n.m.	DPE-2	8	6.45	--	6.93	n.a.	DPE system baseline event before system startup - System off
MW-532	13.38	11/30/2017	15:49	n.m.	DPE-2	8	7.22	--	6.16	0.77	DPE system testing
MW-532	13.38	12/1/2017	15:54	n.m.	DPE-2	8	8.49	--	4.89	2.04	DPE system startup (groundwater extraction only)
MW-532	13.38	12/5/2017	13:05	n.m.	DPE-2	8	9.94	--	3.44	3.49	
MW-532	13.38	12/13/2017	11:44	n.m.	DPE-2	8	11.36	--	2.02	4.91	
MW-532	13.38	12/13/2017	15:35	n.m.	DPE-2	8	10.32	--	3.06	3.87	
MW-532	13.38	12/14/2017	14:02	n.m.	DPE-2	8	10.40	--	2.98	3.95	
MW-532	13.38	12/20/2017	15:09	n.m.	DPE-2	8	9.20	--	4.18	2.75	
MW-532	13.38	12/27/2017	12:25	n.m.	DPE-2	8	10.03	--	3.35	3.58	
MW-532	13.38	1/5/2018	15:50	n.m.	DPE-2	8	8.86	--	4.52	2.41	
MW-532	13.38	1/9/2018	15:48	n.m.	DPE-2	8	8.69	--	4.69	2.24	
MW-532	13.38	1/18/2018	13:32	n.m.	DPE-2	8	8.33	--	5.05	1.88	
MW-532	13.38	1/24/2018	14:32	n.m.	DPE-2	8	7.85	--	5.53	1.40	
MW-532	13.38	2/1/2018	9:28	n.m.	DPE-2	8	9.94	--	3.44	3.49	
MW-532	13.38	2/8/2018	9:23	n.m.	DPE-2	8	9.39	--	3.99	2.94	
MW-532	13.38	2/13/2018	14:50	n.m.	DPE-2	8	9.55	--	3.83	3.10	SVE off
MW-532	13.38	2/20/2018	14:40	n.m.	DPE-2	8	9.14	--	4.24	2.69	
MW-532	13.38	2/28/2018	15:43	n.m.	DPE-2	8	9.70	--	3.68	3.25	
MW-532	13.38	3/8/2018	15:13	n.m.	DPE-2	8	10.06	--	3.32	3.61	
MW-532	13.38	3/14/2018	15:06	n.m.	DPE-2	8	9.62	--	3.76	3.17	
MW-532	13.38	5/29/2018	15:19	n.m.	DPE-2	8	9.08	--	4.30	2.63	
MW-532	13.38	6/18/2018	14:55	n.m.	DPE-2	8	9.75	--	3.63	3.30	SVE off
MW-532	13.38	7/19/2018	16:42	n.m.	DPE-2	8	9.20	--	4.18	2.75	
MW-532	13.38	8/7/2018	11:27	n.m.	DPE-2	8	8.30	--	5.08	1.85	
MW-532	13.38	10/26/2018	15:28	n.m.	DPE-2	8	8.58	--	4.80	2.13	
MW-532	13.38	11/13/2018	15:56	n.m.	DPE-2	8	9.28	--	4.10	2.83	
MW-532	13.38	1/29/2019	13:52	n.m.	DPE-2	8	8.27	--	5.11	1.82	
MW-532	13.38	2/21/2019	11:45	n.m.	DPE-2	8	8.77	--	4.61	2.32	
MW-532	13.38	3/14/2019	13:41	n.m.	DPE-2	8	8.29	--	5.09	1.84	
MW-532	13.38	4/11/2019	13:25	n.m.	DPE-2	8	7.49	--	5.89	1.04	
MW-532	13.38	5/9/2019	14:52	n.m.	DPE-2	8	8.88	--	4.50	2.43	
MW-532	13.38	6/6/2019	14:00	n.m.	DPE-2	8	9.10	--	4.28	2.65	
MW-532	13.38	8/1/2019	10:49	n.m.	DPE-2	8	7.64	--	5.74	1.19	DPE system expansion baseline event before system startup - System off
MW-532	13.38	8/15/2019	10:01	n.m.	DPE-2	8	7.73	--	5.65	1.28	
MW-532	13.38	8/21/2019	11:29	n.m.	DPE-2	8	8.62	--	4.76	2.17	
MW-532	13.38	9/24/2019	9:54	n.m.	DPE-2	8	9.60	--	3.78	3.15	
MW-532	13.38	2/13/2020	11:21	n.m.	DPE-2	8	8.43	--	4.95	1.98	DPE system testing
MW-532	13.38	2/24/2020	11:32	n.m.	DPE-2	8	9.08	--	4.30	2.63	
MW-532	13.38	2/28/2020	13:55	-0.3	DPE-2	8	9.45	--	3.93	3.00	
MW-532	13.38	3/18/2020	11:35	0.0	DPE-2	8	8.89	--	4.49	2.44	

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	Depth to LNAPL	Groundwater Elevation	Drawdown <sup>2,3</sup>	Comments
	ft NAVD88	mm/dd/yy	hh:mm <sup>1</sup>	in H <sub>2</sub> O	DPE-X	feet	ft btoc	ft btoc	ft NAVD88	ft bbl	Notes
MW-532	13.38	4/17/2020	10:58	0.1	DPE-2	8	9.58	--	3.80	3.13	
MW-532	13.38	5/19/2020	15:10	0.0	DPE-2	8	8.90	--	4.48	2.45	
MW-532	13.38	8/19/2020	15:52	n.m.	DPE-2	8	9.76	--	3.62	3.31	
MW-532	13.38	9/2/2020	10:36	n.m.	DPE-2	8	9.52	--	3.86	3.07	
MW-532	13.38	7/16/2021	13:46	0.0	DPE-2	8	7.80	--	5.58	1.35	
MW-532	13.38	8/11/2021	14:25	0.1	DPE-2	8	8.72	--	4.66	2.27	
MW-532	13.38	9/15/2021	12:25	0.1	DPE-2	8	8.52	--	4.86	2.07	
MW-532	13.38	10/6/2021	13:55	0.1	DPE-2	8	8.42	--	4.96	1.97	
MW-532	13.38	11/19/2021	14:22	0.0	DPE-2	8	6.92	--	6.46	0.47	
MW-532	13.38	12/16/2021	12:48	0.0	DPE-2	8	6.87	--	6.51	0.42	
MW-E-R	14.30	8/1/2019	11:47	n.m.	DPE-17	9	7.13	--	7.17	n.a.	DPE system expansion baseline event before system startup - System off
MW-E-R	14.30	8/15/2019	10:19	n.m.	DPE-17	9	9.33	--	4.97	2.2	
MW-E-R	14.30	8/21/2019	10:27	n.m.	DPE-17	9	9.46	--	4.84	2.33	
MW-E-R	14.30	9/24/2019	10:47	n.m.	DPE-17	9	9.54	--	4.76	2.41	
MW-E-R	14.30	2/13/2020	10:20	n.m.	DPE-17	9	9.22	--	5.08	2.09	DPE system testing
MW-E-R	14.30	2/24/2020	11:05	n.m.	DPE-17	9	9.12	--	5.18	1.99	
MW-E-R	14.30	2/28/2020	15:20	-1.7	DPE-17	9	9.22	--	5.08	2.09	
MW-E-R	14.30	3/18/2020	10:42	6.0	DPE-17	9	8.61	--	5.69	1.48	
MW-E-R	14.30	4/17/2020	12:17	3.8	DPE-17	9	9.85	--	4.45	2.72	
MW-E-R	14.30	5/19/2020	13:20	1.3	DPE-17	9	9.25	--	5.05	2.12	
MW-E-R	14.30	8/19/2020	15:50	n.m.	DPE-17	9	9.88	--	4.42	2.75	
MW-E-R	14.30	9/2/2020	10:04	n.m.	DPE-17	9	9.49	--	4.81	2.36	
MW-E-R	14.30	7/16/2021	12:07	0.4	DPE-17	9	10.25	--	4.05	3.12	
MW-E-R	14.30	8/11/2021	15:05	0.1	DPE-17	9	9.76	--	4.54	2.63	
MW-E-R	14.30	9/15/2021	15:23	0.1	DPE-17	9	9.49	--	4.81	2.36	
MW-E-R	14.30	10/6/2021	14:24	17.2	DPE-17	9	8.02	--	6.28	0.89	
MW-E-R	14.30	11/19/2021	13:30	9.1	DPE-17	9	7.40	--	6.90	0.27	
MW-E-R	14.30	12/16/2021	14:01	0.0	DPE-17	9	8.68	--	5.62	1.55	

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

Date	Time	CatOx Total Operating Hours <sup>2.</sup>	VCV Valve Opening	CatOx Inlet Temperature (Meter TT-1901)	Heater Settings CatOx Inlet Set Temperature	CatOx Outlet Temperature (Meter TT-1902)	VOCs Inlet Concentration <sup>3.</sup>	VOCs Outlet Concentration <sup>3.</sup>	Destruction Efficiency <sup>4.</sup>	Discharge Vapor Laboratory Sample
PSCAA Permit 29892 Effluent Limitations	--	--	--	> 600 °F	--	< 1,200 °F	--	--	<ul style="list-style-type: none"> <li>• 98.5% if &gt; 2,000 ppm</li> <li>• 97% if &gt; 200 ppm</li> <li>• 90% if ≥ 100 ppm</li> <li>• &lt; 10 ppm for influent &lt; 100 ppm</li> </ul>	--
mm/dd/yy	hh:mm <sup>1.</sup>	hours	% open to process	°F	°F	°F	ppmv	ppmv	%	Y/N
<b>DPE System Soil Vapor Extraction Testing: 12/05/17</b>										
<b>DPE System Soil Vapor Extraction Start-up: 12/11/17</b>										
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 <sup>2.</sup>	VCV Valve Opening	CatOx Inlet Temperature (Meter TT-1901)	Heater Settings CatOx Inlet Set Temperature	CatOx Outlet Temperature (Meter TT-1902)	VOCs Inlet Concentration <sup>3.</sup>	VOCs Outlet Concentration <sup>3.</sup>	Destruction Efficiency <sup>4.</sup>	Discharge Vapor Laboratory Sample
PSCAA Permit 29892 Effluent Limitations	--	--	--	> 600 °F	--	< 1,200 °F	--	--	<ul style="list-style-type: none"> <li>• 98.5% if &gt; 2,000 ppm</li> <li>• 97% if &gt; 200 ppm</li> <li>• 90% if ≥ 100 ppm</li> <li>• &lt; 10 ppm for influent &lt; 100 ppm</li> </ul>	--
mm/dd/yy	hh:mm <sup>1.</sup>	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	#DIV/0!	N
8/26/2020	12:10	#NA	0	#NA	#NA	#NA	#NA	#NA	#VALUE!	N
9/2/2020	9:30	5,435	0	#NA	#NA	#NA	#NA	#NA	#VALUE!	N
7/16/2021	11:45	5,670	100	630	631	614	3.1	0.0	100.0	N
7/21/2021	14:45	5,794	100	629	630	600	8.0	0.0	100.0	N
7/30/2021	11:10	5,969	100	629	630	619	7.2	0.0	100.0	N
8/5/2011	12:20	6,116	100	630	630	619	10.8	0.0	100.0	N
8/11/2021	12:20	6,245	87.2	628	630	615	10.2	0.0	100.0	Y
8/17/2021	10:30	6,381	100	628	630	621	7.1	0.0	100.0	N
8/27/2021	10:41	6,385	100	637	630	623	101.4	0.0	100.0	N
9/1/2021	11:08	6,483	100	628	630	616	19.9	0.0	100.0	N
9/7/2021	11:15	6,588	100	627	630	619	17.1	0.0	100.0	N
9/15/2021	12:40	6,733	100	627	630	618	11.9	0.0	100.0	N
9/24/2021	12:10	6,833	100	631	630	614	6.0	0.0	100.0	N
9/30/2021	13:09	6,903	100	632	630	615	8.6	0.0	100.0	N
10/6/2021	12:22	6,949	100	629	630	618	8.1	0.0	100.0	N
10/18/2021	13:20	7,035	100	628	631	614	1.7	0.0	100.0	N
10/25/2021	13:25	7,119	100	628	629	613	8.4	0.0	100.0	N
11/12/2021	11:15	7,125	100	628	628	612	9.0	0.0	100.0	N

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

Date	Time	CatOx Total Operating Hours <sup>2.</sup>	VCV Valve Opening	CatOx Inlet Temperature (Meter TT-1901)	Heater Settings CatOx Inlet Set Temperature	CatOx Outlet Temperature (Meter TT-1902)	VOCs Inlet Concentration <sup>3.</sup>	VOCs Outlet Concentration <sup>3.</sup>	Destruction Efficiency <sup>4.</sup>	Discharge Vapor Laboratory Sample
mm/dd/yy	hh:mm <sup>1.</sup>	hours	% open to process	°F	°F	°F	ppmv	ppmv	%	Y/N
PSCAA Permit 29892 Effluent Limitations	--	--	--	> 600 °F	--	< 1,200 °F	--	--	<ul style="list-style-type: none"> <li>• 98.5% if &gt; 2,000 ppm</li> <li>• 97% if &gt; 200 ppm</li> <li>• 90% if ≥ 100 ppm</li> <li>• &lt; 10 ppm for influent &lt; 100 ppm</li> </ul>	--
11/19/2021	11:58	7,158	100	630	630	615	0.1	0.0	100.0	N
11/24/2021	11:45	7,206	100	629	632	616	0.1	0.0	100.0	N
11/29/2021	13:06	7,279	100	630	630	613	0.0	0.0	100.0	Y
12/16/2021	10:30	7,451	100	629	632	610	0.0	0.0	100.0	N
12/20/2021	12:40	7,569	100	629	637	616	0.0	0.0	100.0	N







Data Sheet Name	Notes
<b>Table 4-4</b> <b>Dual-Phase</b> <b>Extraction Well</b> <b>Groundwater</b> <b>Operational Data</b>	<ol style="list-style-type: none"> <li>1. hh:mm in data sheets is reported in 24 hour format</li> <li>2. DPE well depth to water based on transducer readings</li> <li>3. Totalizer reading at each DPE well</li> <li>4. Instantaneous DPE well groundwater flow rate reads from flowmeter. Grundfos Redi-fo 4 top-loading electric submersible pump.</li> </ol> <p>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.</p> <p>*: 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</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction</p> <p>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</p>
<b>Table 4-5</b> <b>Dual-Phase</b> <b>Extraction Well</b> <b>Vapor Data</b>	<ol style="list-style-type: none"> <li>1. hh:mm in data sheets is reported in 24 hour format</li> <li>2. VOCs concentration measured in the field by photoionization detector (PID) reading</li> <li>3. SVE well SVE -2 is connected to the individual vapor conveyance line for DPE-13.</li> <li>4. SVE well SVE -1 is connected to the individual vapor conveyance line for DPE-14.</li> <li>5. DPE-12 was decommissioned and DPE-12R was installed approximately four feet to the west on 03/22/18.</li> </ol> <p>DPE well = dual phase extraction well; remediation well used for both groundwater and soil vapor extraction</p> <p>in Hg = inches mercury      ppmv = parts per million vapor      #N/A = not applicable, not available      SVE = soil vapor extraction</p>

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

Data Sheet Name	Notes
<b>Table 4-6</b> <b>Observation Well Data</b>	<sup>1</sup> hh:mm in data sheets is reported in 24 hour format <sup>2</sup> LNAPL is assessed using an NAPL-water interface probe. The electronic interface probe is placed at the depth where the instrument produces a signal indicating a fluid interface (LNAPL and groundwater interfaces produce distinct signals). The interface probe is then brought back to the surface of the well and the tip of the interface probe is inspected for any indication of LNAPL. If a LNAPL signal is produced or LNAPL is observed on the tip of the probe, a bailer is used to confirm the absence/presence of LNAPL. <sup>3</sup> 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 <sup>4</sup> 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 <sub>2</sub> O = inches water LNAPL = Light non-aqueous phase liquid MW = monitoring well; observation well used for DPE system monitoring and groundwater compliance monitoring n.a. = not applicable NAVD88 = North American Vertical Datum of 1988 n.g. = not gauged n.m. = not measured (for induced vacuum measurement only) SVE = soil vapor extraction PZ = piezometer; observation well used for DPE system monitoring -- = No LNAPL signal produced by the electronic interface probe. Further details provided in the comments column as needed per note 2.
Data Sheet Name	Notes
<b>Table 4-7</b> <b>Catalytic Oxidizer Data</b>	<sup>1</sup> hh:mm in data sheets is reported in 24 hour format <sup>2</sup> Catalytic Oxidizer (CatOx) total operating hours read on CatOx Panel <sup>3</sup> VOCs concentration measured in the field by photoionization detector (PID) reading <sup>4</sup> Destruction Efficiency = (VOCs Inlet Concentration - VOCs Outlet Concentration) * 100 / VOCs Inlet Concentration <sup>o</sup> 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	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
12/01/17	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

**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
12/20/18	Outfall#002	1	U	0.044	U	150	J	98	J	210	J
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
04/26/20	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, *

**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
06/08/20	Outfall#002	0.24	U	0.010	U	100	U	71	U	100	U
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
01/06/21	Outfall#002	0.24	U	0.010	U	100	U	70	U	100	U
01/11/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	100	U
01/19/21	Outfall#002	0.24	U	0.009	U	100	U	69	U	100	U
01/26/21	Outfall#002	0.24	U	0.010	U	100	U	66	U	98	U
02/02/21	Outfall#002	0.24	U	0.010	U	100	U	71	U	100	U
02/08/21	Outfall#002	0.24	U	0.008	U	100	U	68	U	100	U
02/17/21	Outfall#002	0.24	U	0.010	U	100	U	72	U	110	U
02/24/21	Outfall#002	0.24	U	0.010	U	100	U	67	U	99	U
03/04/21	Outfall#002	0.24	U	0.010	U	100	U	66	U	98	U
03/08/21	Outfall#002	0.24	U	0.009	U	100	U	68	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
03/17/21	Outfall#002	0.24	U	0.010	J	100	U	71	U	100	U
03/23/21	Outfall#002	0.24	U	0.009	U	100	U	71	U	100	U
04/01/21	Outfall#002	0.24	U	0.009	U	100	U	70	U	100	U
04/05/21	Outfall#002	0.24	U	0.009	U	100	U	67	U, H	99	U, H
04/12/21	Outfall#002	0.24	U	0.009	U	100	U	70	U	100	U
04/20/21	Outfall#002	0.24	U	0.010	U	100	U	96	J	110	U
04/26/21	Outfall#002	0.24	U	0.009	U	100	U	69	U	100	U
05/05/21	Outfall#002	0.24	U	0.009	U	100	U	66	U	97	U
05/10/21	Outfall#002	0.24	U	0.010	U	100	U	100	J	110	U
05/17/21	Outfall#002	0.24	U	0.010	U	100	U	70	U	100	U
05/24/21	Outfall#002	0.24	U	0.010	U	100	U	71	U	100	U
06/03/21	Outfall#002	0.24	U	0.009	U	100	U	65	U	97	U
06/11/21	Outfall#002	0.24	U	0.010	U	100	U	72	U	110	U
06/15/21	Outfall#002	0.24	U	0.010	U	100	U	67	U	99	U
06/25/21	Outfall#002	0.24	U	0.010	U	100	U	68	U	100	U
06/30/21	Outfall#002	0.24	U	0.010	U	100	U	69	U	100	U
07/06/21	Outfall#002	0.24	U	0.009	U	100	U	69	J	97	U
07/12/21	Outfall#002	0.24	U	0.009	U	100	U	66	U	97	U
07/21/21	Outfall#002	0.24	U	0.010	U	100	U	73	U	160	J B
07/26/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	99	U
08/02/21	Outfall#002	0.24	U	0.008	U	100	U	68	J B *1	110	J
08/09/21	Outfall#002	0.24	U	0.009	U	100	U	65	U *1	95	U *+ *1
08/16/21	Outfall#002	0.24	U	0.010	U	100	U	63	U	93	U *+
08/26/21	Outfall#002	0.24	U	0.009	U	100	U	68	U	100	U
09/01/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	99	U
09/07/21	Outfall#002	0.24	U	0.009	U	100	U	62	U	91	U
09/13/21	Outfall#002	0.24	*1	0.009	U	100	U	68	J B	98	U
09/21/21	Outfall#002	0.24	U	0.040	U	100	U	80	J B	100	U
09/30/21	Outfall#002	0.24	Y	0.010	U	100	U	65	U	96	U
10/04/21	Outfall#002	0.24	U	0.009	U	100	U	89	J B	93	U
10/11/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	98	U
10/18/21	Outfall#002	0.24	U	0.009	U, H	100	U	66	U	97	U
10/25/21	Outfall#002	0.24	U	0.009	U	100	U	82	J B	120	J B
11/01/21	Outfall#002	0.24	U	0.010	U	210	J	70	U	100	U
11/10/21	Outfall#002	0.24	U	0.010	U	100	*1	70	U	100	U
11/17/21	Outfall#002	0.24	U	0.009	U	100	U	68	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
11/22/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	99	U
11/29/21	Outfall#002	0.24	U	0.009	U	100	U	67	U	99	*+
12/06/21	Outfall#002	0.24	U	0.009	U	100	U	76	J B	98	U
12/14/21	Outfall#002	0.24	U	0.009	U	100	U	66	U	98	U
12/20/21	Outfall#002	0.24	U *+	0.010	U	100	U	67	U	98	U

**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

µg/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.

\*1: LCS/LCSD RPD exceeds control limits

\*+: LCS and/or LCSD is outside acceptance limits, high biased

# FIGURES

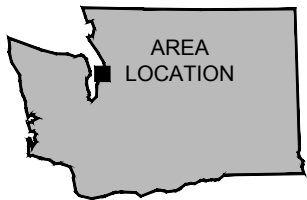




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REFERENCE: BASE MAP USGS QUADS., 7.5 MIN. SERIES (TOPOGRAPHIC) - EDMONDS EAST, WASH. AND EDMONDS WEST, WASH.



WASHINGTON



CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 FORMER UNOCAL BULK FUEL TERMINAL  
 EDMONDS, WASHINGTON  
**2021 GROUNDWATER AND OPERATION REPORT**

**SITE LOCATION**

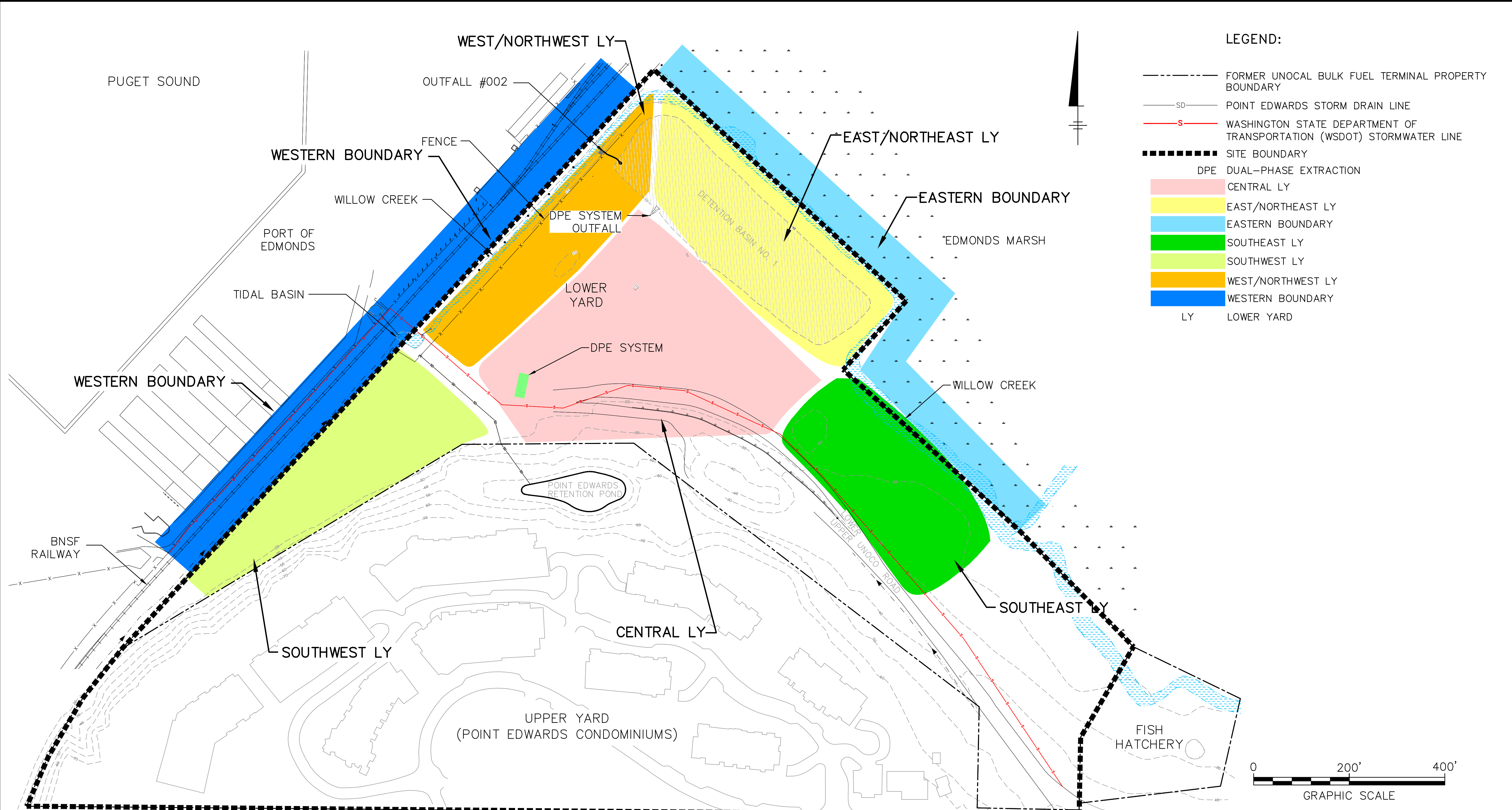
**ARCADIS** | Design & Consultancy  
 for natural and built assets

FIGURE  
**1-1**

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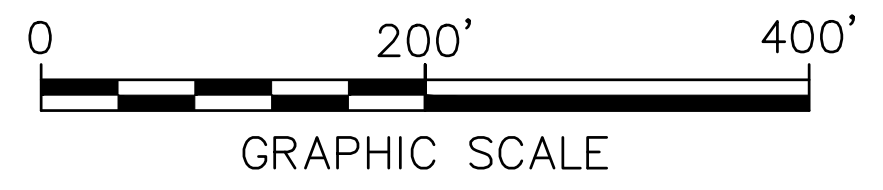


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 BY: JAYAPAL, DINESH KUMAR ACADVER: 21.05 (LMS TECH) PAGES/SETUP: 1/1 PLOTTED: 2/5/2019 6:58 PM



**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  
**2021 GROUNDWATER AND OPERATION REPORT**

**SITE LAYOUT**

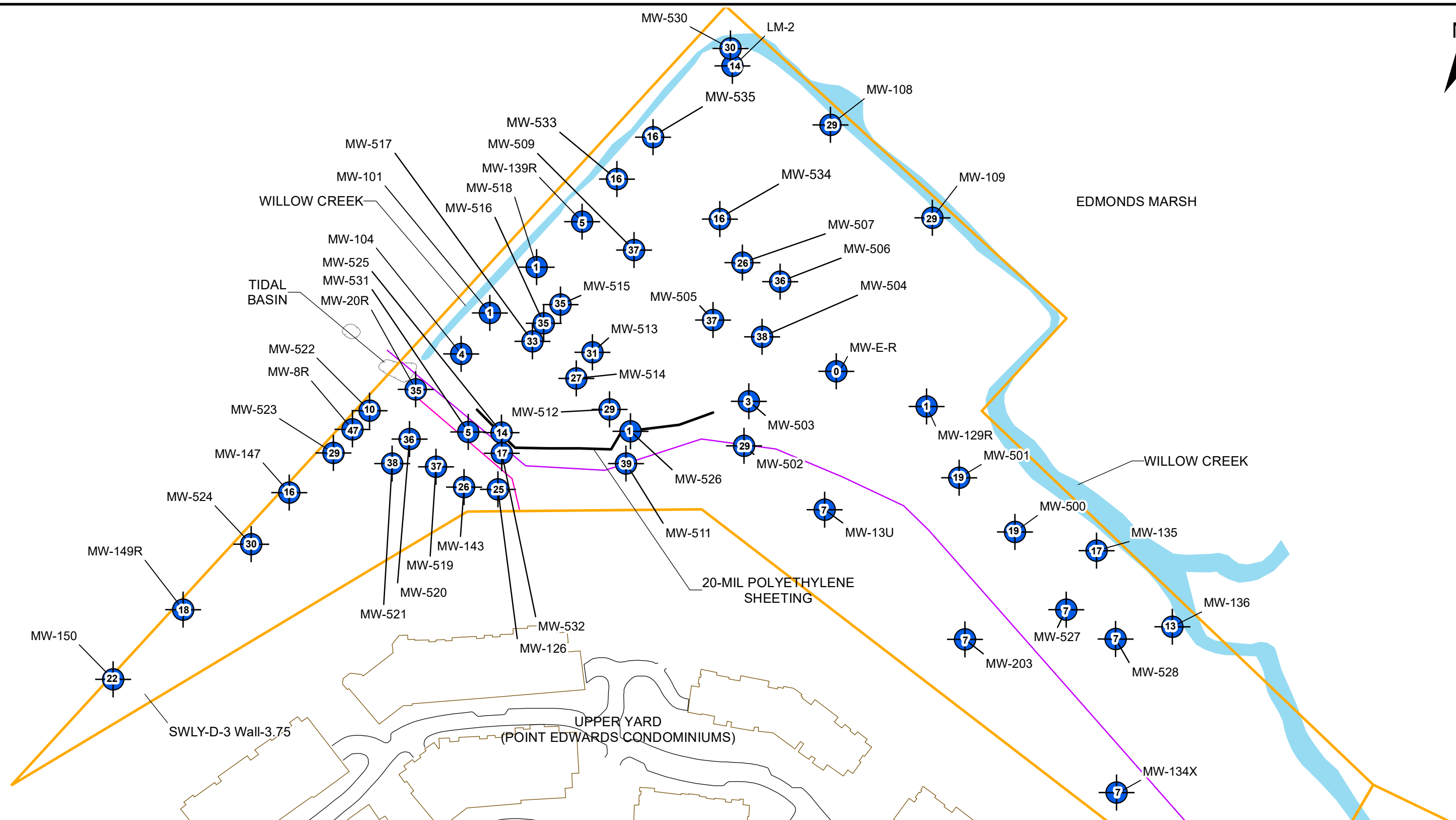
**ARCADIS** Design & Consultancy  
 for natural and built assets

FIGURE  
**2-1**

IMAGES: PROJECTNAME: ---  
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 45362X00  
 RECORD-INT-ACT-X-RECORDTOPO





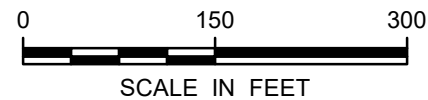


**LEGEND**

- WELL AND NUMBER OF CONSECUTIVE SAMPLING ROUNDS SHOWING CONCENTRATIONS OF TOTAL PETROLEUM HYDROCARBONS LESS THAN PROPOSED GROUNDWATER (GW) 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 20<sup>TH</sup>, 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 20<sup>TH</sup>, 2017.
5. MONITORING WELLS MW-101, MW-129R, MW-518, MW-526 MW-E-R WERE SAMPLED TWICE ON FIRST QUARTER 2019.



WSDOT = WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

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

**2021 GROUNDWATER AND OPERATION REPORT**

**SITE GROUNDWATER TPH REMEDIATION  
 STATUS - FOURTH QUARTER 2021**

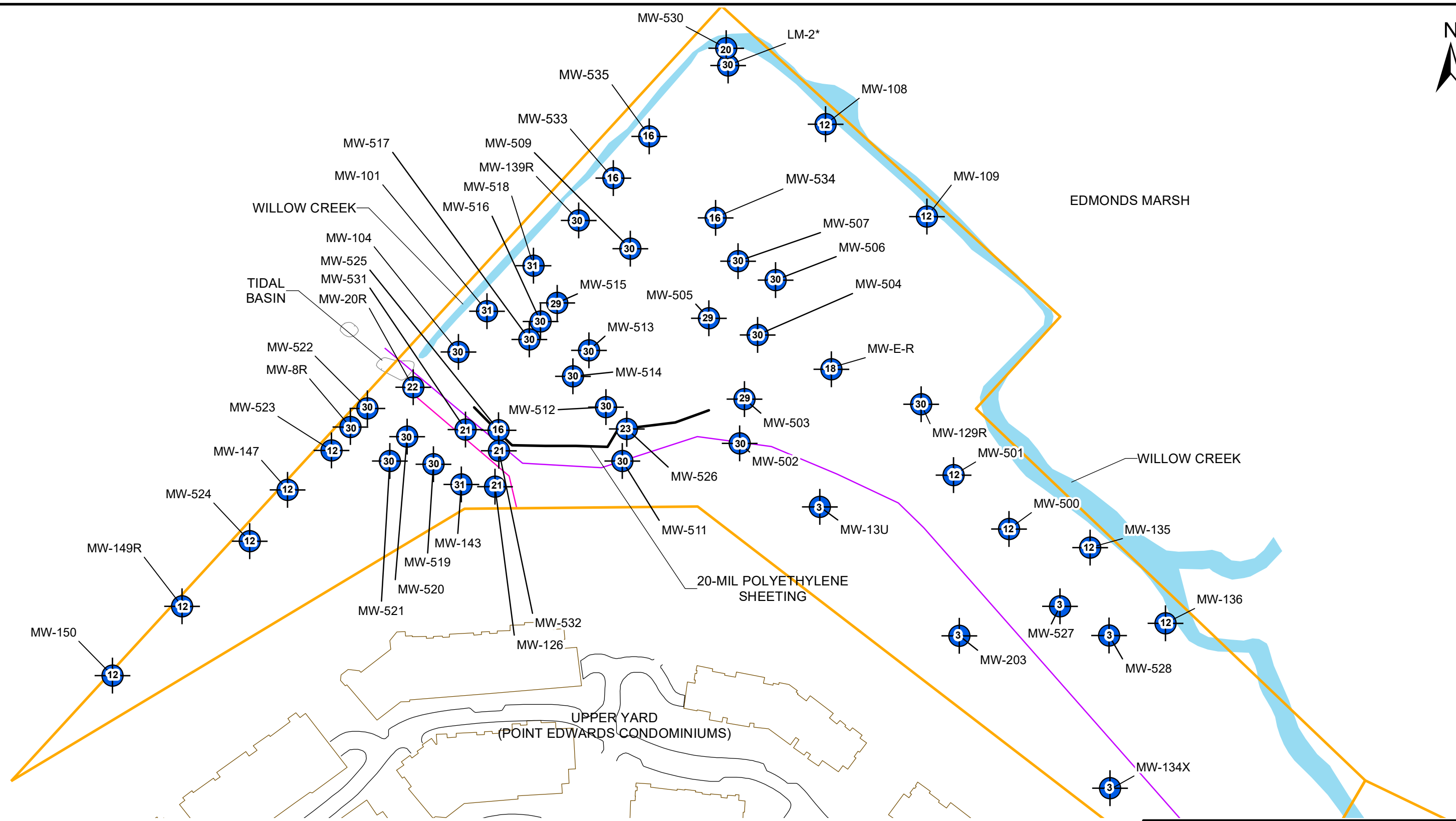


FIGURE

**3-2**



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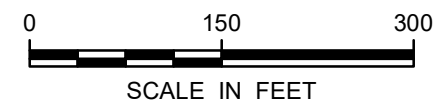
**LEGEND**

- 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. MONITORING WELLS MW-533, MW-534 AND MW-535 WERE INSTALLED POST-EXCAVATION ON OCTOBER 20<sup>th</sup>, 2017.
5. 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

**2021 GROUNDWATER AND OPERATION REPORT**

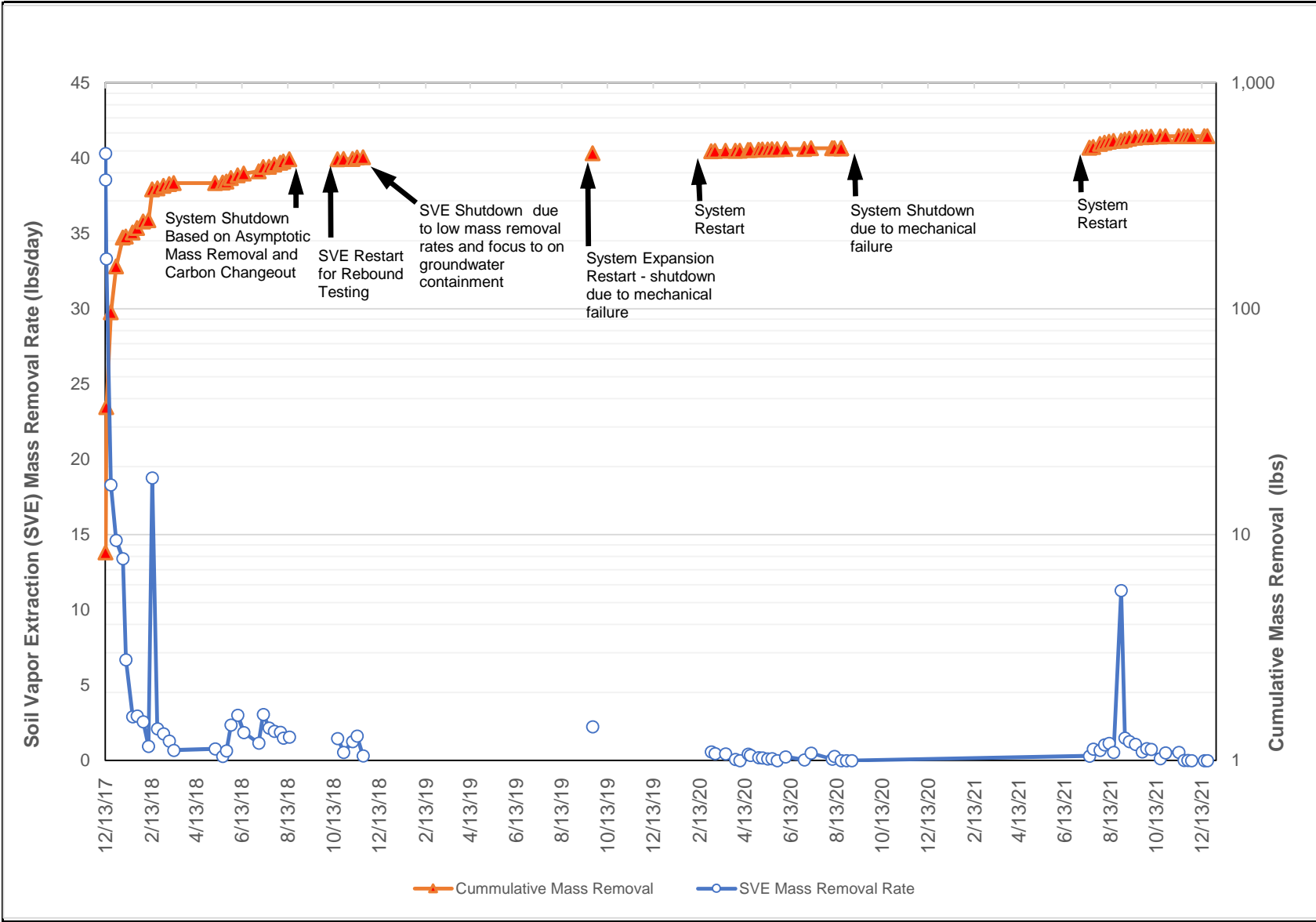
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**GROUNDWATER BENZENE  
 REMEDIATION STATUS - FOURTH QUARTER 2021**

---

**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

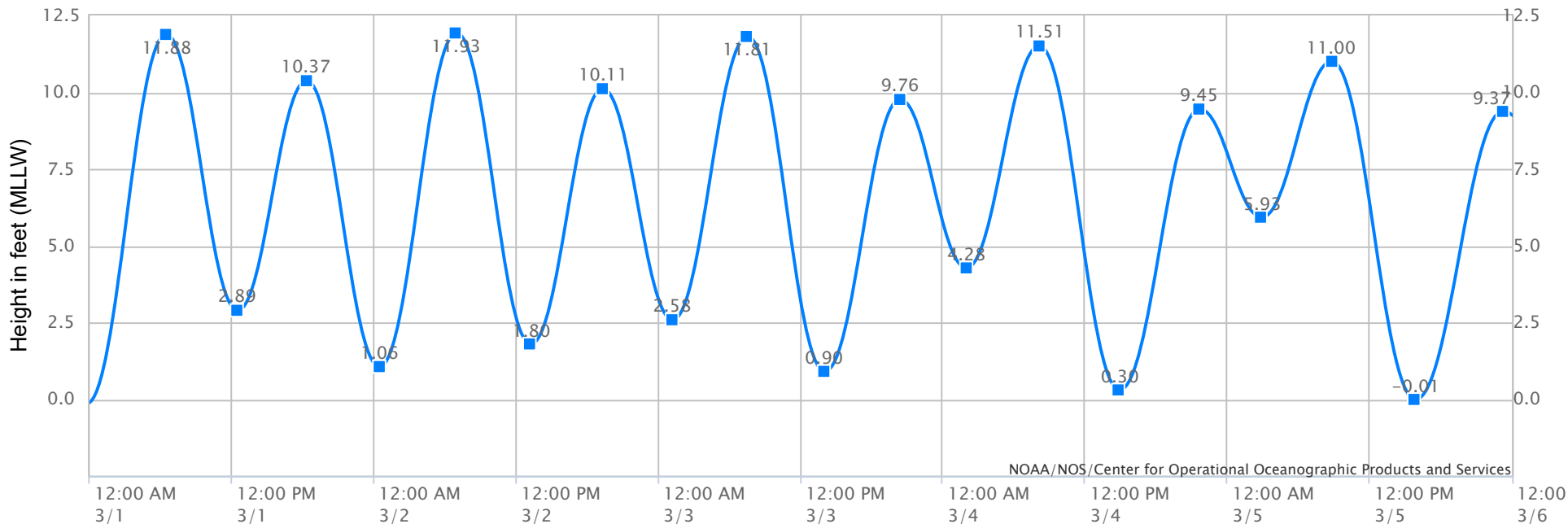




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**NOAA/NOS/CO-OPS**  
**Tide Predictions at 9447427, EDMONDS WA**  
 From 2021/03/01 12:00 AM LST/LDT to 2021/03/05 11:59 PM LST/LDT  
 Subordinate Station | Ref. Station (Seattle 9447130) | Time offsets (high: 0 min. low: -4 min.) | Height offsets (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: 2021/3/1 12:00 AM  
 End Date & Time: 2021/3/5 11:59 PM

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

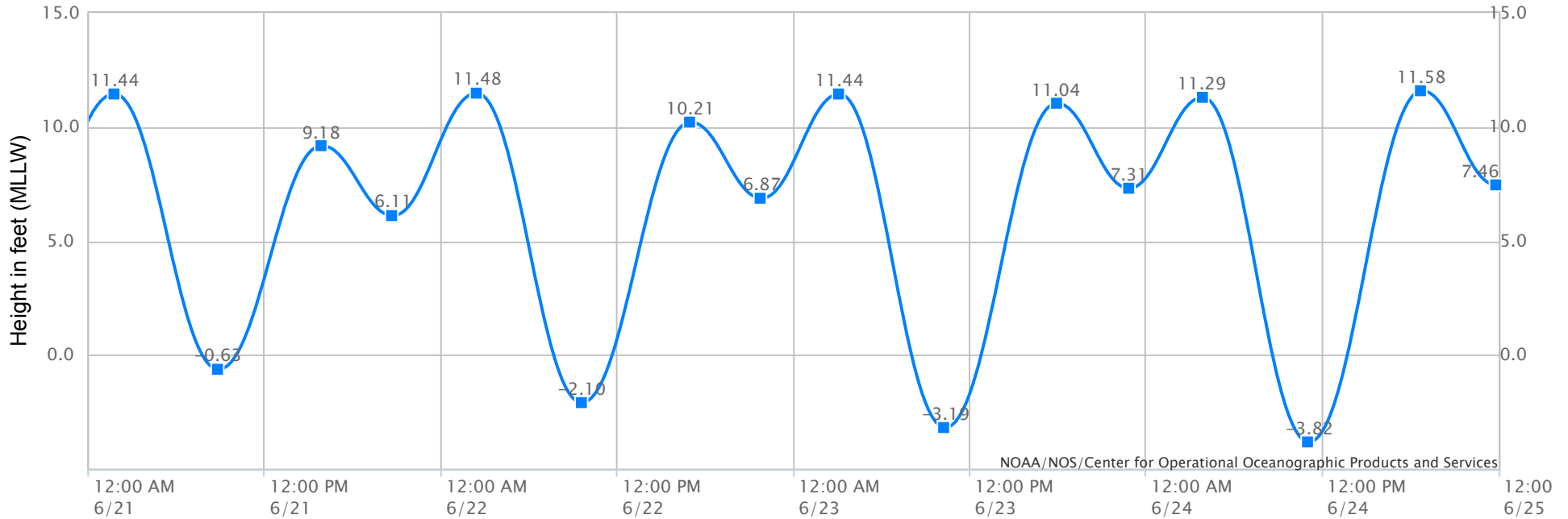
Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2021/03/01		12:00 AM	0.00						
2021/03/01		~06:00 AM	11.88						
2021/03/01		12:00 PM	2.89						
2021/03/01		~06:00 PM	10.37						
2021/03/02		12:00 AM	1.06						
2021/03/02		~06:00 AM	11.93						
2021/03/02		12:00 PM	1.80						
2021/03/02		~06:00 PM	10.11						
2021/03/03		12:00 AM	2.58						
2021/03/03		~06:00 AM	11.81						
2021/03/03		12:00 PM	0.90						
2021/03/03		~06:00 PM	9.76						
2021/03/04		12:00 AM	4.28						
2021/03/04		~06:00 AM	11.51						
2021/03/04		12:00 PM	0.30						
2021/03/04		~06:00 PM	9.45						
2021/03/05		12:00 AM	5.93						
2021/03/05		~06:00 AM	11.00						
2021/03/05		12:00 PM	-0.01						
2021/03/05		~06:00 PM	9.37						

2021/03/01	Mon	06:27 AM	11.88 H	12:29 PM	2.89 L	6:18 PM	10.37 H		
2021/03/02	Tue	12:27 AM	1.06 L	06:57 AM	11.93 H	1:13 PM	1.80 L	7:17 PM	10.11 H
2021/03/03	Wed	01:11 AM	2.58 L	07:30 AM	11.81 H	2:01 PM	0.90 L	8:22 PM	9.76 H
2021/03/04	Thu	01:58 AM	4.28 L	08:07 AM	11.51 H	2:53 PM	0.30 L	9:38 PM	9.45 H
2021/03/05	Fri	02:53 AM	5.93 L	08:48 AM	11.00 H	3:51 PM	-0.01 L	11:14 PM	9.37 H



[Help](#)

**NOAA/NOS/CO-OPS**  
**Tide Predictions at 9447427, EDMONDS WA**  
 From 2021/06/21 12:00 AM LST/LDT to 2021/06/24 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: 2021/6/21 12:00 AM  
 End Date & Time: 2021/6/24 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
6/21		12:00 AM	11.44	~06:00 AM	-0.63	12:00 PM	9.18	~03:00 PM	6.11
6/22		12:00 AM	11.48	~06:00 AM	-2.10	12:00 PM	10.21	~03:00 PM	6.87
6/23		12:00 AM	11.44	~06:00 AM	-3.19	12:00 PM	11.04	~03:00 PM	7.31
6/24		12:00 AM	11.29	~06:00 AM	-3.82	12:00 PM	11.58	~03:00 PM	7.46

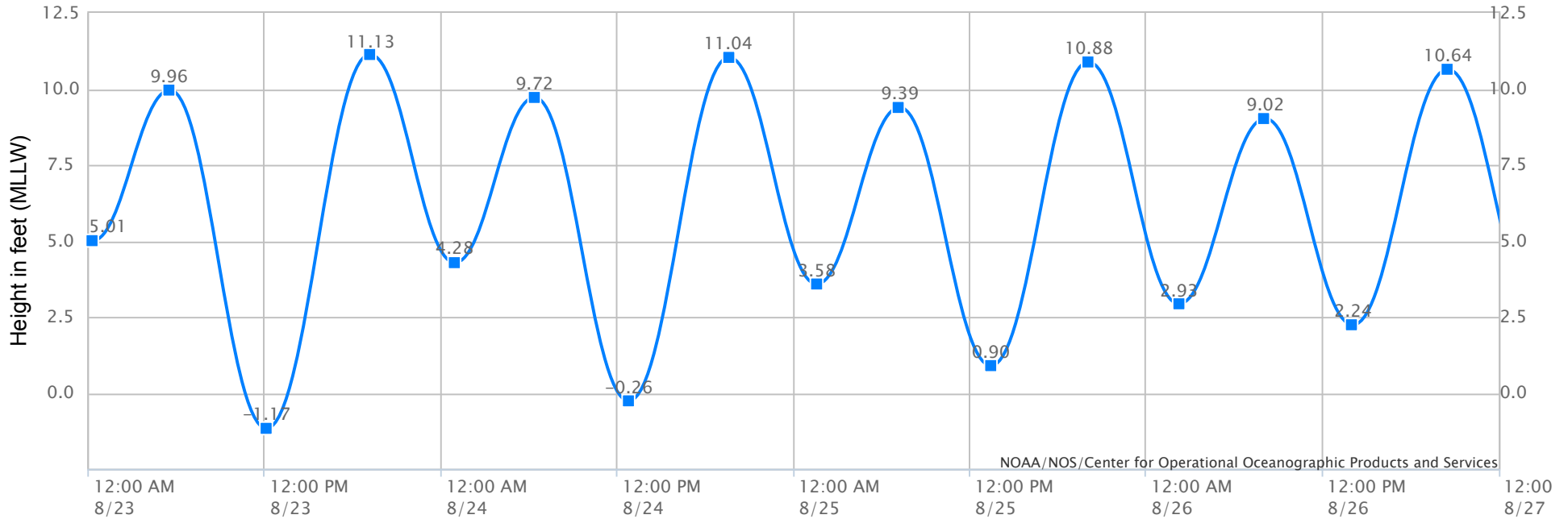


2021/06/21	Mon	01:44 AM	11.44 H	08:49 AM	-0.63 L	3:51 PM	9.18 H	8:42 PM	6.11 L
2021/06/22	Tue	02:24 AM	11.48 H	09:33 AM	-2.10 L	4:58 PM	10.21 H	9:48 PM	6.87 L
2021/06/23	Wed	03:06 AM	11.44 H	10:18 AM	-3.19 L	5:54 PM	11.04 H	10:49 PM	7.31 L
2021/06/24	Thu	03:50 AM	11.29 H	11:04 AM	-3.82 L	6:46 PM	11.58 H	11:48 PM	7.46 L



[Help](#)

**NOAA/NOS/CO-OPS**  
**Tide Predictions at 9447427, EDMONDS WA**  
 From 2021/08/23 12:00 AM LST/LDT to 2021/08/26 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: 2021/8/23 12:00 AM  
 End Date & Time: 2021/8/26 11:59 PM

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

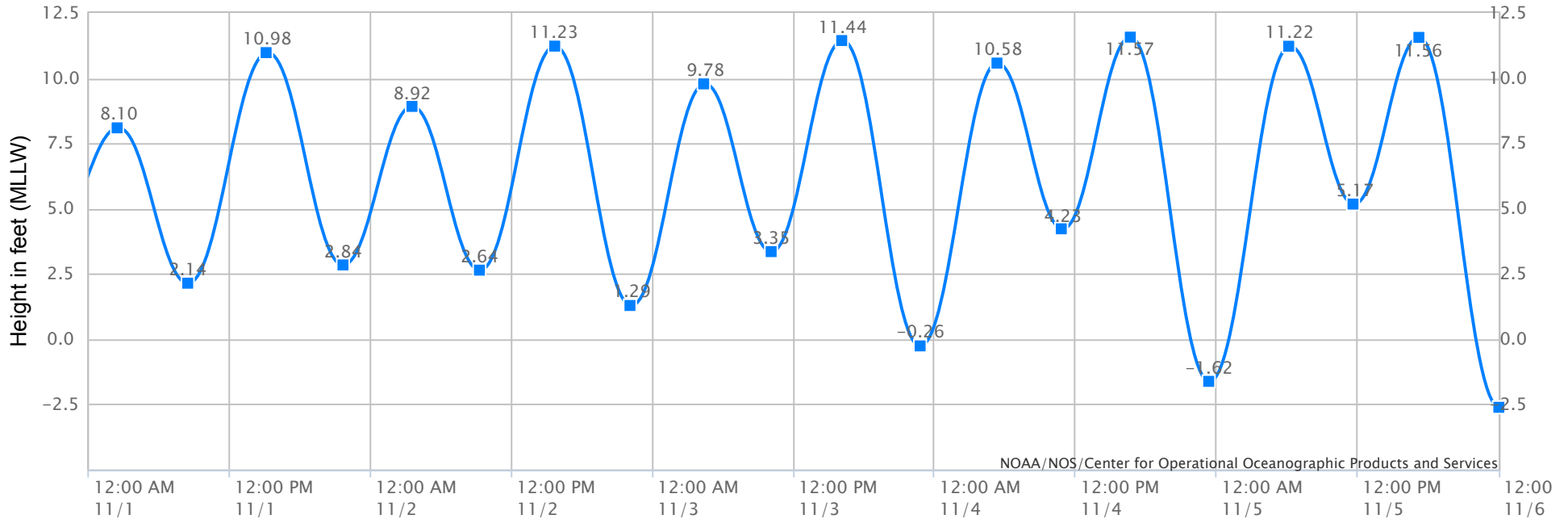
Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
8/23		12:00 AM	5.01	06:00 AM	9.96	12:00 PM	-1.17	06:00 PM	11.13
8/24		12:00 AM	4.28	06:00 AM	9.72	12:00 PM	-0.26	06:00 PM	11.04
8/25		12:00 AM	3.58	06:00 AM	9.39	12:00 PM	0.90	06:00 PM	10.88
8/26		12:00 AM	2.93	06:00 AM	9.02	12:00 PM	2.24	06:00 PM	10.64

2021/08/23	Mon	12:15 AM	5.01 L	05:31 AM	9.96 H	12:05 PM	-1.17 L	7:08 PM	11.13 H
2021/08/24	Tue	12:55 AM	4.28 L	06:21 AM	9.72 H	12:45 PM	-0.26 L	7:35 PM	11.04 H
2021/08/25	Wed	01:33 AM	3.58 L	07:12 AM	9.39 H	1:25 PM	0.90 L	8:03 PM	10.88 H
2021/08/26	Thu	02:13 AM	2.93 L	08:05 AM	9.02 H	2:04 PM	2.24 L	8:31 PM	10.64 H



[Help](#)

**NOAA/NOS/CO-OPS**  
**Tide Predictions at 9447427, EDMONDS WA**  
 From 2021/11/01 12:00 AM LST/LDT to 2021/11/05 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: 2021/11/1 12:00 AM  
 End Date & Time: 2021/11/5 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
11/1		12:00 AM	8.10	06:00 AM	2.14	12:00 PM	10.98	06:00 PM	2.84
11/2		12:00 AM	8.92	06:00 AM	2.64	12:00 PM	11.23	06:00 PM	1.29
11/3		12:00 AM	9.78	06:00 AM	3.35	12:00 PM	11.44	06:00 PM	-0.26
11/4		12:00 AM	10.58	06:00 AM	4.23	12:00 PM	11.57	06:00 PM	-1.62
11/5		12:00 AM	11.22	06:00 AM	5.17	12:00 PM	11.56	06:00 PM	-2.5

2021/11/01	Mon	02:31 AM	8.10 H	08:26 AM	2.14 L	3:13 PM	10.98 H	9:38 PM	2.84 L
2021/11/02	Tue	03:31 AM	8.92 H	09:17 AM	2.64 L	3:40 PM	11.23 H	10:10 PM	1.29 L
2021/11/03	Wed	04:26 AM	9.78 H	10:05 AM	3.35 L	4:09 PM	11.44 H	10:45 PM	-0.26 L
2021/11/04	Thu	05:19 AM	10.58 H	10:53 AM	4.23 L	4:39 PM	11.57 H	11:22 PM	-1.62 L
2021/11/05	Fri	06:13 AM	11.22 H	11:41 AM	5.17 L	5:12 PM	11.56 H		

# APPENDIX B

## Groundwater Sampling Event Field Notes





**Monitoring Wells/Piezometers**

Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID	Well	Time	DTW	DTP	PID
LM-2	1244	1.42	-	0.0	MW-126	1152	4.81	-	0.0	MW-130U	1222	16.68	-	0.0
MW-8R	1220	8.23	-	0.0	MW-143	1149	3.30	-	1.8	MW-108	1237	5.54	-	0.0
MW-20R	1227	6.64	-	0.0	MW-502	1152	4.86	-	0.0	MW-109	1240	6.56	-	0.0
MW-101	1233	8.79	-	0.0	MW-503	1151	4.98	-	0.0	MW-134X	1215	25.70	-	0.0
MW-104	1230	8.12	-	0.0	MW-504	1147	6.44	-	0.0	MW-135	1201	10.48	-	0.0
MW-129R	1131	4.90	-	19.2	MW-505	1148	4.49	-	0.0	MW-136	1204	7.95	-	0.0
MW-139R	1237	6.92	-	0.0	MW-506	1145	6.50	-	0.0	MW-147	1214	5.60	-	0.0
MW-518	1235	8.37	-	0.0	MW-507	1143	6.67	-	0.0	MW-148R	1206	6.75	-	0.0
MW-522	1221	8.23	-	0.0	MW-509	1141	3.37	-	0.0	MW-150	1203	7.54	-	0.0
MW-530	1247	6.67	-	0.0	MW-511	1225	7.51	-	0.0	MW-203	1220	21.97	-	0.0
MW-533	1239	4.94	-	0.0	MW-512	1231	6.40	-	0.0	MW-500	1159	3.78	-	0.0
MW-535	1243	4.79	-	0.0	MW-513	1134	4.22	-	0.0	MW-501	1156	4.36	-	0.4
					MW-514	1128	4.52	-	0.0	MW-523	1217	7.91	-	0.0
					MW-515	1136	4.72	-	0.0	MW-524	1209	7.58	-	0.0
					MW-516	1138	4.37	-	0.0	MW-527	1210	7.39	-	0.0
					MW-517	1140	5.14	-	0.0	MW-528	1207	8.70	-	0.0
					MW-519	1149	6.96	-	0.0					
					MW-520	1226	7.66	-	0.0					
					MW-521	1124	6.57	-	0.0	(MW-151)	1211	5.13	-	0.0
					MW-525	1143	6.26	-	0.0					
					MW-526	1229	4.84	-	0.0					
					MW-531	1256	7.63	-	0.0					
					MW-532	1253	7.29	-	0.0					
					MW-534	1137	3.39	-	0.0					
					MW-ER	1134	6.65	-	1.4					

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 12:45:00 PM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: LM-2</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5.5 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 8 ft</b> <b>Initial Depth to Water: 1.42 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 4 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.41 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
3/2/2021 12:45 PM	00:00	5.75 pH	51.71 °F	13,523 µS/cm	2.10 mg/L	137.63 NTU	102.1 mV	1.42 ft	150.00 ml/min
3/2/2021 12:48 PM	03:00	5.79 pH	51.08 °F	13,422 µS/cm	0.29 mg/L	24.83 NTU	69.5 mV	1.42 ft	150.00 ml/min
3/2/2021 12:51 PM	06:00	5.81 pH	50.85 °F	13,262 µS/cm	0.15 mg/L	9.07 NTU	49.8 mV	1.42 ft	150.00 ml/min
3/2/2021 12:54 PM	09:00	5.83 pH	50.73 °F	13,625 µS/cm	0.12 mg/L	7.06 NTU	38.4 mV	1.42 ft	150.00 ml/min
3/2/2021 12:57 PM	12:00	5.85 pH	50.74 °F	7,632.7 µS/cm	0.42 mg/L	8.87 NTU	30.4 mV	1.42 ft	150.00 ml/min
3/2/2021 1:00 PM	15:00	5.87 pH	50.79 °F	5,394.1 µS/cm	0.13 mg/L	7.20 NTU	22.4 mV	1.42 ft	150.00 ml/min
3/2/2021 1:03 PM	18:00	5.89 pH	50.71 °F	5,149.1 µS/cm	0.07 mg/L	8.56 NTU	16.0 mV	1.42 ft	150.00 ml/min
3/2/2021 1:06 PM	21:00	5.90 pH	50.65 °F	4,756.7 µS/cm	0.07 mg/L	5.74 NTU	11.1 mV	1.42 ft	150.00 ml/min
3/2/2021 1:09 PM	24:00	5.92 pH	50.67 °F	4,257.2 µS/cm	0.09 mg/L	4.54 NTU	6.2 mV	1.42 ft	150.00 ml/min
3/2/2021 1:12 PM	27:00	5.94 pH	50.76 °F	4,125.5 µS/cm	0.10 mg/L	4.42 NTU	2.1 mV	1.42 ft	150.00 ml/min
3/2/2021 1:15 PM	30:00	5.95 pH	50.85 °F	4,014.4 µS/cm	0.11 mg/L	3.75 NTU	-1.9 mV	1.42 ft	150.00 ml/min
3/2/2021 1:18 PM	33:00	5.97 pH	51.01 °F	3,958.6 µS/cm	0.12 mg/L	3.27 NTU	-5.5 mV	1.42 ft	150.00 ml/min
3/2/2021 1:21 PM	36:00	5.98 pH	51.06 °F	3,851.7 µS/cm	0.13 mg/L	2.52 NTU	-8.7 mV	1.42 ft	150.00 ml/min
3/2/2021 1:24 PM	39:00	6.00 pH	51.13 °F	3,748.8 µS/cm	0.14 mg/L	2.16 NTU	-11.8 mV	1.42 ft	150.00 ml/min
3/2/2021 1:27 PM	42:00	6.01 pH	51.18 °F	3,654.4 µS/cm	0.14 mg/L	2.26 NTU	-14.9 mV	1.42 ft	150.00 ml/min

3/2/2021 1:30 PM	45:00	6.02 pH	51.24 °F	3,649.5 µS/cm	0.14 mg/L	1.94 NTU	-17.6 mV	1.42 ft	150.00 ml/min
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## Samples

Sample ID:	Description:
LM-2	Sample Time: 1336 Final DTW: 2.85 ft btoc Final RDO: 0.14 mg/L ORP did not stabilize after 45 minutes

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 1:06:37 PM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-8R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.22 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

50, 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 %		
3/3/2021 1:06 PM	00:00	7.05 pH	54.05 °F	118.60 µS/cm	4.82 mg/L	54.16 NTU	90.1 mV	8.22 ft	150.00 ml/min
3/3/2021 1:09 PM	03:00	7.01 pH	52.41 °F	120.91 µS/cm	1.41 mg/L	12.83 NTU	88.2 mV	8.22 ft	150.00 ml/min
3/3/2021 1:12 PM	06:00	7.00 pH	51.91 °F	121.33 µS/cm	0.88 mg/L	1.13 NTU	86.4 mV	8.22 ft	150.00 ml/min
3/3/2021 1:15 PM	09:00	7.01 pH	51.80 °F	123.52 µS/cm	0.77 mg/L	0.46 NTU	85.6 mV	8.22 ft	150.00 ml/min
3/3/2021 1:18 PM	12:00	7.01 pH	51.60 °F	125.12 µS/cm	0.77 mg/L	0.16 NTU	84.6 mV	8.22 ft	150.00 ml/min
3/3/2021 1:21 PM	15:00	7.01 pH	51.45 °F	124.00 µS/cm	0.77 mg/L	0.85 NTU	84.0 mV	8.22 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-8R	Sample Time: 1336 Final DTW: 8.23 ft btoc Final RDO: 0.17 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 1:02:43 PM

Project: Edmonds Terminal 1Q21 (2)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-20</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.62 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 1350 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 1:02 PM	00:00	6.97 pH	48.05 °F	1,235.4 µS/cm	6.17 mg/L	0.00 NTU	181.4 mV	7.62 ft	150.00 ml/min
3/3/2021 1:05 PM	03:00	6.98 pH	47.98 °F	1,175.4 µS/cm	5.71 mg/L	0.00 NTU	179.7 mV	7.62 ft	150.00 ml/min
3/3/2021 1:08 PM	06:00	6.97 pH	47.85 °F	1,118.0 µS/cm	5.32 mg/L	0.00 NTU	178.6 mV	7.62 ft	150.00 ml/min
3/3/2021 1:11 PM	09:00	6.97 pH	47.82 °F	1,085.0 µS/cm	5.00 mg/L	0.00 NTU	177.9 mV	7.62 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-520	Sample Time 13:22 Final DTW 7.62 ft btoc Final RDO 4.93 mg/L

# Low-Flow Test Report:

**Test Date / Time:** 3/3/2021 10:58:44 AM

**Project:** Edmonds Terminal 1Q21

**Operator Name:** KZ

<p><b>Location Name:</b> MW-20R  <b>Well Diameter:</b> 2 in  <b>Casing Type:</b> PVC  <b>Screen Length:</b> 10.5 ft  <b>Top of Screen:</b> 4 ft  <b>Total Depth:</b> 14.5 ft  <b>Initial Depth to Water:</b> 6.24 ft</p>	<p><b>Pump Type:</b> Geotech Geopump Series 2  <b>Tubing Type:</b> Polyethylene  <b>Pump Intake From TOC:</b> 10 ft  <b>Estimated Total Volume Pumped:</b> 4500 ml  <b>Flow Cell Volume:</b> 130 ml  <b>Final Flow Rate:</b> 150 ml/min  <b>Final Draw Down:</b> 0.27 ft</p>	<p><b>Instrument Used:</b> Aqua TROLL 600 Vented  <b>Serial Number:</b> 467545</p>
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**Test Notes:**

**Weather Conditions:**

50, 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 %		
3/3/2021 10:58 AM	00:00	5.79 pH	47.65 °F	7,399.5 µS/cm	5.76 mg/L	14.79 NTU	147.4 mV	6.24 ft	150.00 ml/min
3/3/2021 11:01 AM	03:00	5.76 pH	48.71 °F	7,517.3 µS/cm	1.86 mg/L	40.76 NTU	144.3 mV	6.24 ft	150.00 ml/min
3/3/2021 11:04 AM	06:00	5.74 pH	49.13 °F	7,776.0 µS/cm	1.48 mg/L	38.86 NTU	144.5 mV	6.24 ft	150.00 ml/min
3/3/2021 11:07 AM	09:00	5.79 pH	49.43 °F	8,678.9 µS/cm	1.20 mg/L	14.53 NTU	146.3 mV	6.24 ft	150.00 ml/min
3/3/2021 11:10 AM	12:00	5.98 pH	49.63 °F	10,225 µS/cm	0.76 mg/L	15.59 NTU	148.7 mV	6.24 ft	150.00 ml/min
3/3/2021 11:13 AM	15:00	6.14 pH	49.80 °F	11,882 µS/cm	0.55 mg/L	11.71 NTU	150.1 mV	6.24 ft	150.00 ml/min
3/3/2021 11:16 AM	18:00	6.21 pH	49.95 °F	12,945 µS/cm	0.49 mg/L	6.66 NTU	150.2 mV	6.24 ft	150.00 ml/min
3/3/2021 11:19 AM	21:00	6.22 pH	49.98 °F	13,228 µS/cm	0.57 mg/L	4.45 NTU	149.2 mV	6.24 ft	150.00 ml/min
3/3/2021 11:22 AM	24:00	6.26 pH	50.07 °F	13,742 µS/cm	0.52 mg/L	3.89 NTU	149.3 mV	6.24 ft	150.00 ml/min
3/3/2021 11:25 AM	27:00	6.28 pH	50.13 °F	14,060 µS/cm	0.49 mg/L	4.62 NTU	149.0 mV	6.24 ft	150.00 ml/min
3/3/2021 11:28 AM	30:00	6.30 pH	50.21 °F	14,326 µS/cm	0.48 mg/L	2.01 NTU	148.6 mV	6.24 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-20R	Sample Time: 1136 Final DTW: 6.51 ft btoc Final RDO: 0.48 mg/L



# Low-Flow Test Report:

**Test Date / Time:** 3/2/2021 3:22:44 PM

**Project:** Edmonds Terminal 1Q21

**Operator Name:** JVA

<p><b>Location Name: MW-101</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 5 ft</b>  <b>Total Depth: 15 ft</b>  <b>Initial Depth to Water: 8.65 m</b></p>	<p><b>Pump Type: Geotech geopump series 2</b>  <b>Tubing Type: Polyethylene 0.170 x .25</b>  <b>Pump Intake From TOC: 5 ft</b>  <b>Estimated Total Volume Pumped: 5862.5 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 697450</b></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 %		
3/2/2021 3:22 PM	00:00	6.54 pH	54.14 °F	424.38 µS/cm	5.03 mg/L	11.57 NTU	164.0 mV	8.65 m	150.00 ml/min
3/2/2021 3:25 PM	03:00	6.49 pH	53.51 °F	123.56 µS/cm	9.05 mg/L	5.76 NTU	166.6 mV	8.65 m	150.00 ml/min
3/2/2021 3:28 PM	06:00	6.42 pH	53.33 °F	433.89 µS/cm	5.22 mg/L	30.58 NTU	150.1 mV	8.65 m	150.00 ml/min
3/2/2021 3:31 PM	09:00	6.44 pH	53.56 °F	439.07 µS/cm	3.32 mg/L	27.22 NTU	154.7 mV	8.65 m	150.00 ml/min
3/2/2021 3:34 PM	12:00	6.43 pH	53.30 °F	478.24 µS/cm	2.50 mg/L	12.57 NTU	109.6 mV	8.65 m	150.00 ml/min
3/2/2021 3:37 PM	15:05	6.43 pH	53.24 °F	533.91 µS/cm	2.43 mg/L	11.99 NTU	97.4 mV	8.65 m	150.00 ml/min
3/2/2021 3:40 PM	18:05	6.44 pH	53.17 °F	579.96 µS/cm	2.30 mg/L	3.00 NTU	88.0 mV	8.65 m	150.00 ml/min
3/2/2021 3:43 PM	21:05	6.44 pH	53.08 °F	642.04 µS/cm	2.32 mg/L	3.25 NTU	84.5 mV	8.65 m	150.00 ml/min
3/2/2021 3:46 PM	24:05	6.44 pH	53.00 °F	701.42 µS/cm	2.22 mg/L	2.99 NTU	77.0 mV	8.65 m	150.00 ml/min
3/2/2021 3:49 PM	27:05	6.45 pH	53.07 °F	685.28 µS/cm	2.36 mg/L	0.51 NTU	76.5 mV	8.65 m	150.00 ml/min
3/2/2021 3:52 PM	30:05	6.43 pH	52.87 °F	784.11 µS/cm	2.35 mg/L	23.23 NTU	74.8 mV	8.65 m	150.00 ml/min
3/2/2021 3:55 PM	33:05	9.72 pH	54.52 °F	0.07 µS/cm	11.24 mg/L	0.00 NTU	-18.0 mV	8.65 m	150.00 ml/min
3/2/2021 3:58 PM	36:05	10.25 pH	55.58 °F	0.07 µS/cm	11.08 mg/L	0.00 NTU	-28.8 mV	8.65 m	150.00 ml/min
3/2/2021 4:01 PM	39:05	10.08 pH	56.28 °F	0.07 µS/cm	10.97 mg/L	0.00 NTU	-10.9 mV	8.65 m	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-101	Final DTW 9.03, final OrP 76.5, sample time 1304. DUP-4 taken

Created using VuSitu from In-Situ, Inc.

# Low-Flow Test Report:

Test Date / Time: 3/1/2021 1:37:39 PM

Project: Edmonds Terminal 1Q21

Operator Name: DSG

<b>Location Name: MW-104</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 15 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.15 m</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 12396.667 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.4 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

ORP did not stabilize after 1 hour

## Weather Conditions:

Partly 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 %		
3/1/2021 1:37 PM	00:00	6.55 pH	52.59 °F	413.49 µS/cm	6.35 mg/L	445.91 NTU	82.9 mV	8.15 m	200.00 ml/min
3/1/2021 1:40 PM	03:00	5.94 pH	51.53 °F	242.62 µS/cm	3.83 mg/L	78.06 NTU	148.9 mV	8.15 m	200.00 ml/min
3/1/2021 1:43 PM	06:00	5.93 pH	51.55 °F	350.44 µS/cm	3.75 mg/L	27.79 NTU	120.0 mV	8.15 m	200.00 ml/min
3/1/2021 1:46 PM	09:00	6.01 pH	51.47 °F	444.56 µS/cm	3.34 mg/L	38.97 NTU	62.3 mV	8.15 m	200.00 ml/min
3/1/2021 1:49 PM	12:00	6.17 pH	51.52 °F	479.37 µS/cm	2.96 mg/L	35.33 NTU	116.6 mV	8.15 m	200.00 ml/min
3/1/2021 1:52 PM	15:00	6.40 pH	51.59 °F	600.67 µS/cm	2.54 mg/L	7.49 NTU	94.9 mV	8.15 m	200.00 ml/min
3/1/2021 1:55 PM	18:00	6.43 pH	51.66 °F	631.77 µS/cm	2.85 mg/L	7.50 NTU	44.4 mV	8.15 m	200.00 ml/min
3/1/2021 1:58 PM	21:00	6.45 pH	51.78 °F	718.67 µS/cm	2.43 mg/L	3.57 NTU	61.7 mV	8.15 m	200.00 ml/min
3/1/2021 2:01 PM	24:00	6.44 pH	51.51 °F	762.89 µS/cm	2.35 mg/L	3.38 NTU	98.5 mV	8.15 m	200.00 ml/min
3/1/2021 2:04 PM	27:00	6.44 pH	51.73 °F	706.19 µS/cm	2.09 mg/L	503.56 NTU	57.4 mV	8.15 m	200.00 ml/min
3/1/2021 2:07 PM	30:03	6.45 pH	51.46 °F	773.71 µS/cm	2.22 mg/L	40.95 NTU	47.3 mV	8.15 m	200.00 ml/min
3/1/2021 2:10 PM	33:03	6.44 pH	51.54 °F	908.31 µS/cm	1.85 mg/L	93.16 NTU	63.6 mV	8.15 m	200.00 ml/min
3/1/2021 2:13 PM	36:03	6.45 pH	51.83 °F	748.82 µS/cm	1.89 mg/L	91.97 NTU	57.1 mV	8.15 m	200.00 ml/min

3/1/2021 2:16 PM	39:03	6.44 pH	52.07 °F	783.89 µS/cm	1.74 mg/L	176.51 NTU	61.7 mV	8.15 m	200.00 ml/min
3/1/2021 2:19 PM	42:03	6.41 pH	51.63 °F	924.47 µS/cm	1.72 mg/L	18.29 NTU	91.9 mV	8.15 m	200.00 ml/min
3/1/2021 2:22 PM	45:03	6.43 pH	51.62 °F	931.88 µS/cm	1.82 mg/L	5.89 NTU	94.5 mV	8.15 m	200.00 ml/min
3/1/2021 2:25 PM	48:03	6.43 pH	51.47 °F	1,012.3 µS/cm	1.76 mg/L	3.23 NTU	70.3 mV	8.15 m	200.00 ml/min
3/1/2021 2:28 PM	51:03	6.41 pH	51.53 °F	992.36 µS/cm	1.91 mg/L	1.10 NTU	70.4 mV	8.15 m	200.00 ml/min
3/1/2021 2:31 PM	54:03	6.42 pH	51.35 °F	998.04 µS/cm	1.91 mg/L	1.42 NTU	103.5 mV	8.15 m	200.00 ml/min
3/1/2021 2:34 PM	57:03	6.42 pH	51.42 °F	945.16 µS/cm	1.81 mg/L	302.86 NTU	63.7 mV	8.15 m	200.00 ml/min
3/1/2021 2:37 PM	01:00:03	6.42 pH	51.50 °F	981.23 µS/cm	1.89 mg/L	15.28 NTU	54.9 mV	8.15 m	200.00 ml/min
3/1/2021 2:39 PM	01:01:59	6.42 pH	51.66 °F	978.97 µS/cm	2.09 mg/L	67.57 NTU	57.7 mV	8.15 m	200.00 ml/min

## Samples

Sample ID:	Description:
MW-104	Sample Time 14:40 Final DTW: 8.55 ft btoc Final RDO: 2.09 mg/L
DUP-2	Sample Time: -

# Low-Flow Test Report:

Test Date / Time: 3/4/2021 10:14:10 AM

Project: Edmonds Terminal 1Q21

Operator Name: TB

<b>Location Name: MW-126</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 3.7 ft</b> <b>Total Depth: 14.2 ft</b> <b>Initial Depth to Water: 4.8 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.67 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

46, partly 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 %		
3/4/2021 10:14 AM	00:00	6.80 pH	50.23 °F	546.87 µS/cm	9.03 mg/L		73.7 mV	4.80 ft	150.00 ml/min
3/4/2021 10:17 AM	03:00	6.67 pH	49.36 °F	532.49 µS/cm	5.91 mg/L		77.8 mV	4.80 ft	150.00 ml/min
3/4/2021 10:20 AM	06:00	6.67 pH	49.00 °F	532.22 µS/cm	5.90 mg/L		88.4 mV	4.80 ft	150.00 ml/min
3/4/2021 10:23 AM	09:00	6.67 pH	48.75 °F	534.65 µS/cm	5.92 mg/L		92.3 mV	4.80 ft	150.00 ml/min
3/4/2021 10:26 AM	12:00	6.67 pH	48.67 °F	533.97 µS/cm	5.74 mg/L		94.7 mV	4.80 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-126	Time: 1027 DTW:5.47 RDO: 0.26

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 9:26:13 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-139R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4.4 ft</b> <b>Total Depth: 14.9 ft</b> <b>Initial Depth to Water: 6.9 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 4955 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 9:26 AM	00:00	7.04 pH	47.08 °F	6,531.2 µS/cm	5.70 mg/L	0.87 NTU	142.3 mV	6.90 ft	150.00 ml/min
3/3/2021 9:29 AM	03:00	7.04 pH	46.87 °F	6,524.2 µS/cm	3.75 mg/L	0.41 NTU	87.9 mV	6.90 ft	150.00 ml/min
3/3/2021 9:32 AM	06:00	7.10 pH	46.65 °F	4,478.8 µS/cm	3.82 mg/L	0.70 NTU	27.9 mV	6.90 ft	150.00 ml/min
3/3/2021 9:35 AM	09:00	7.14 pH	46.47 °F	2,849.1 µS/cm	4.13 mg/L	0.00 NTU	38.9 mV	6.90 ft	150.00 ml/min
3/3/2021 9:38 AM	12:01	7.12 pH	46.34 °F	2,765.3 µS/cm	4.22 mg/L	0.00 NTU	45.4 mV	6.90 ft	150.00 ml/min
3/3/2021 9:41 AM	15:01	7.10 pH	46.34 °F	2,890.4 µS/cm	4.23 mg/L	0.00 NTU	48.1 mV	6.90 ft	150.00 ml/min
3/3/2021 9:44 AM	18:01	7.09 pH	46.33 °F	3,080.3 µS/cm	4.23 mg/L	0.00 NTU	48.2 mV	6.90 ft	150.00 ml/min
3/3/2021 9:47 AM	21:01	7.08 pH	46.35 °F	3,252.8 µS/cm	4.22 mg/L	0.00 NTU	49.8 mV	6.90 ft	150.00 ml/min
3/3/2021 9:50 AM	24:01	7.07 pH	46.34 °F	3,454.5 µS/cm	4.28 mg/L	0.00 NTU	49.5 mV	6.90 ft	150.00 ml/min
3/3/2021 9:53 AM	27:01	7.06 pH	46.31 °F	3,627.7 µS/cm	4.23 mg/L	0.00 NTU	53.3 mV	6.90 ft	150.00 ml/min
3/3/2021 9:56 AM	30:02	7.06 pH	46.31 °F	3,808.2 µS/cm	4.22 mg/L	0.00 NTU	59.2 mV	6.90 ft	150.00 ml/min
3/3/2021 9:59 AM	33:02	7.05 pH	46.31 °F	3,987.6 µS/cm	4.22 mg/L	0.00 NTU	62.2 mV	6.90 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-139R	Sample Time: 10:02 Final DTW: 6.90 ft btoc Final RDO: 4.22 mg/L



# Low-Flow Test Report:

Test Date / Time: 3/3/2021 1:42:33 PM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-143</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.6 ft</b> <b>Top of Screen: 3.5 ft</b> <b>Total Depth: 14.1 ft</b> <b>Initial Depth to Water: 4.45 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.4 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 1:42 PM	00:00	6.45 pH	50.03 °F	387.49 µS/cm	2.26 mg/L	5.08 NTU	-59.9 mV	4.45 ft	150.00 ml/min
3/3/2021 1:45 PM	03:00	6.44 pH	49.38 °F	410.52 µS/cm	0.46 mg/L	4.75 NTU	-77.4 mV	4.45 ft	150.00 ml/min
3/3/2021 1:48 PM	06:00	6.44 pH	49.00 °F	442.29 µS/cm	0.31 mg/L	3.42 NTU	-86.4 mV	4.45 ft	150.00 ml/min
3/3/2021 1:51 PM	09:00	6.44 pH	48.99 °F	452.33 µS/cm	0.29 mg/L	2.92 NTU	-90.3 mV	4.45 ft	150.00 ml/min
3/3/2021 1:54 PM	12:00	6.44 pH	48.92 °F	471.89 µS/cm	0.30 mg/L	2.48 NTU	-92.8 mV	4.45 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-143	Sample Time 14:02 Final DTW 5.85 ft btoc Final RDO 0.30 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 12:01:52 PM

Project: Edmonds Terminal 1Q21

Operator Name: JVA

<b>Location Name: MW-101</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 7.48 m</b>	<b>Pump Type: Geotech geopump series 2</b> <b>Tubing Type: Polyethylene 0.170 x .25</b> <b>Pump Intake From TOC: 5 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: -0.03 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 50 F

## 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 %		
3/3/2021 12:01 PM	00:00	6.46 pH	49.11 °F	275.17 µS/cm	8.20 mg/L	0.74 NTU	193.5 mV	7.48 m	150.00 ml/min
3/3/2021 12:04 PM	03:00	6.37 pH	49.25 °F	269.62 µS/cm	7.53 mg/L	0.00 NTU	205.7 mV	7.48 m	150.00 ml/min
3/3/2021 12:07 PM	06:00	6.38 pH	49.37 °F	272.77 µS/cm	7.54 mg/L	0.00 NTU	210.5 mV	7.48 m	150.00 ml/min
3/3/2021 12:10 PM	09:00	6.39 pH	49.38 °F	272.89 µS/cm	7.32 mg/L	0.00 NTU	217.9 mV	7.48 m	150.00 ml/min
3/3/2021 12:13 PM	12:00	6.36 pH	49.48 °F	272.02 µS/cm	6.96 mg/L	0.00 NTU	221.3 mV	7.48 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-511	Sample taken at 0924, final DTW 7.51, final ORP 221.3

# Low-Flow Test Report:

**Test Date / Time:** 3/3/2021 12:53:30 PM

**Project:** Edmonds Terminal 1Q21

**Operator Name:** JVA

<p><b>Location Name: MW-512</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 6.33 ft</b></p>	<p><b>Pump Type: Geotech geopump series 2</b>  <b>Tubing Type: Polyethylene 0.170 x .25</b>  <b>Pump Intake From TOC: 5 ft</b>  <b>Estimated Total Volume Pumped: 7212.5 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 697450</b></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 %		
3/3/2021 12:53 PM	00:00	6.86 pH	51.46 °F	3,667.9 µS/cm	3.27 mg/L	1.70 NTU	18.1 mV	6.33 ft	150.00 ml/min
3/3/2021 12:56 PM	03:00	7.14 pH	50.67 °F	3,725.0 µS/cm	0.39 mg/L	0.34 NTU	-65.5 mV	6.33 ft	150.00 ml/min
3/3/2021 12:59 PM	06:00	7.05 pH	50.45 °F	2,390.5 µS/cm	1.01 mg/L	0.00 NTU	-69.0 mV	6.33 ft	150.00 ml/min
3/3/2021 1:02 PM	09:00	6.80 pH	50.25 °F	991.82 µS/cm	0.65 mg/L	0.00 NTU	-39.1 mV	6.33 ft	150.00 ml/min
3/3/2021 1:05 PM	12:00	6.71 pH	50.20 °F	791.99 µS/cm	0.29 mg/L	0.00 NTU	-27.9 mV	6.33 ft	150.00 ml/min
3/3/2021 1:08 PM	15:05	6.70 pH	50.27 °F	737.13 µS/cm	0.41 mg/L	0.00 NTU	-26.3 mV	6.33 ft	150.00 ml/min
3/3/2021 1:11 PM	18:05	6.70 pH	50.25 °F	673.09 µS/cm	0.56 mg/L	0.00 NTU	-26.5 mV	6.33 ft	150.00 ml/min
3/3/2021 1:14 PM	21:05	6.68 pH	50.28 °F	656.04 µS/cm	0.47 mg/L	0.00 NTU	-24.4 mV	6.33 ft	150.00 ml/min
3/3/2021 1:17 PM	24:05	6.68 pH	50.23 °F	634.15 µS/cm	0.39 mg/L	0.00 NTU	-22.4 mV	6.33 ft	150.00 ml/min
3/3/2021 1:20 PM	27:05	6.68 pH	50.28 °F	619.23 µS/cm	0.62 mg/L	0.00 NTU	-21.7 mV	6.33 ft	150.00 ml/min
3/3/2021 1:23 PM	30:05	6.68 pH	50.32 °F	601.93 µS/cm	0.63 mg/L	0.00 NTU	-18.8 mV	6.33 ft	150.00 ml/min
3/3/2021 1:26 PM	33:05	6.67 pH	50.32 °F	593.98 µS/cm	0.45 mg/L	0.00 NTU	-17.3 mV	6.33 ft	150.00 ml/min
3/3/2021 1:29 PM	36:05	6.67 pH	50.32 °F	598.15 µS/cm	0.55 mg/L	0.00 NTU	-15.1 mV	6.33 ft	150.00 ml/min
3/3/2021 1:32 PM	39:05	6.68 pH	50.25 °F	569.67 µS/cm	0.53 mg/L	0.00 NTU	-13.0 mV	6.33 ft	150.00 ml/min

3/3/2021 1:35 PM	42:05	6.68 pH	50.26 °F	565.08 µS/cm	0.60 mg/L	0.00 NTU	-11.6 mV	6.33 ft	150.00 ml/min
3/3/2021 1:38 PM	45:05	6.68 pH	50.36 °F	566.69 µS/cm	0.63 mg/L	0.00 NTU	-9.2 mV	6.33 ft	150.00 ml/min
3/3/2021 1:41 PM	48:05	6.68 pH	50.37 °F	540.81 µS/cm	0.64 mg/L	0.00 NTU	-8.5 mV	6.33 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-512	Final DTW 6.33, final ORP -8.5and didn't stabilize. Sampled at 1044

# Low-Flow Test Report:

**Test Date / Time:** 3/3/2021 3:42:33 PM

**Project:** Edmonds Terminal 1Q21

**Operator Name:** JVA

<p><b>Location Name: MW-513</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 4.19 ft</b></p>	<p><b>Pump Type: Geotech geopump series 2</b>  <b>Tubing Type: Polyethylene 0.170 x .25</b>  <b>Pump Intake From TOC: 5 ft</b>  <b>Estimated Total Volume Pumped: 6762.5 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 697450</b></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 %		
3/3/2021 3:42 PM	00:00	6.47 pH	52.94 °F	17,383 µS/cm	1.38 mg/L	2.42 NTU	5.5 mV	4.19 ft	150.00 ml/min
3/3/2021 3:45 PM	03:00	6.82 pH	52.42 °F	7,197.7 µS/cm	0.88 mg/L	1.39 NTU	-34.0 mV	4.19 ft	150.00 ml/min
3/3/2021 3:48 PM	06:00	6.88 pH	52.65 °F	2,726.6 µS/cm	1.76 mg/L	0.37 NTU	-36.4 mV	4.19 ft	150.00 ml/min
3/3/2021 3:51 PM	09:00	6.77 pH	52.32 °F	3,590.2 µS/cm	2.25 mg/L	3.57 NTU	-31.4 mV	4.19 ft	150.00 ml/min
3/3/2021 3:54 PM	12:00	6.85 pH	52.04 °F	3,119.7 µS/cm	2.52 mg/L	0.33 NTU	-8.0 mV	4.19 ft	150.00 ml/min
3/3/2021 3:57 PM	15:00	6.84 pH	51.70 °F	3,324.1 µS/cm	3.28 mg/L	0.16 NTU	-7.0 mV	4.19 ft	150.00 ml/min
3/3/2021 4:00 PM	18:00	6.81 pH	51.47 °F	3,733.1 µS/cm	3.00 mg/L	0.31 NTU	-27.0 mV	4.19 ft	150.00 ml/min
3/3/2021 4:03 PM	21:00	6.83 pH	51.16 °F	3,776.8 µS/cm	3.58 mg/L	0.03 NTU	-0.1 mV	4.19 ft	150.00 ml/min
3/3/2021 4:06 PM	24:00	6.87 pH	51.46 °F	3,218.8 µS/cm	3.74 mg/L	0.00 NTU	-4.4 mV	4.19 ft	150.00 ml/min
3/3/2021 4:09 PM	27:00	6.84 pH	51.21 °F	3,866.6 µS/cm	3.95 mg/L	0.00 NTU	-27.5 mV	4.19 ft	150.00 ml/min
3/3/2021 4:12 PM	30:00	6.86 pH	51.28 °F	3,060.8 µS/cm	4.35 mg/L	0.00 NTU	10.0 mV	4.19 ft	150.00 ml/min
3/3/2021 4:15 PM	33:00	6.87 pH	51.52 °F	2,679.1 µS/cm	4.28 mg/L	0.00 NTU	-1.0 mV	4.19 ft	150.00 ml/min
3/3/2021 4:18 PM	36:00	6.85 pH	52.10 °F	3,582.2 µS/cm	4.03 mg/L	0.17 NTU	-29.1 mV	4.19 ft	150.00 ml/min
3/3/2021 4:21 PM	39:00	6.85 pH	51.61 °F	3,032.6 µS/cm	4.33 mg/L	1.64 NTU	-27.2 mV	4.19 ft	150.00 ml/min

3/3/2021 4:24 PM	42:00	6.88 pH	51.74 °F	3,352.4 $\mu$ S/cm	4.91 mg/L	0.00 NTU	0.1 mV	4.19 ft	150.00 ml/min
3/3/2021 4:27 PM	45:05	6.87 pH	51.33 °F	3,135.6 $\mu$ S/cm	4.69 mg/L	0.00 NTU	-27.3 mV	4.19 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-513	Sample taken at 1334. Final DTW 4.19. Parameters did not stabilize , including Fina orp of -27.3

# Low-Flow Test Report:

**Test Date / Time:** 3/3/2021 2:24:55 PM

**Project:** Edmonds Terminal 1Q21

**Operator Name:** JVA

<b>Location Name: MW-514</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.45 ft</b>	<b>Pump Type: Geotech geopump series 2</b> <b>Tubing Type: Polyethylene 0.170 x .25</b> <b>Pump Intake From TOC: 5 ft</b> <b>Estimated Total Volume Pumped: 7147.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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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 %		
3/3/2021 2:24 PM	00:00	6.52 pH	51.75 °F	2,413.8 µS/cm	2.64 mg/L	42.48 NTU	119.3 mV	4.45 ft	150.00 ml/min
3/3/2021 2:27 PM	03:00	6.49 pH	51.36 °F	2,446.6 µS/cm	0.48 mg/L	19.03 NTU	89.8 mV	4.45 ft	150.00 ml/min
3/3/2021 2:30 PM	06:00	6.50 pH	51.08 °F	2,383.0 µS/cm	0.89 mg/L	12.68 NTU	77.4 mV	4.45 ft	150.00 ml/min
3/3/2021 2:33 PM	09:00	6.51 pH	51.12 °F	2,294.1 µS/cm	0.68 mg/L	10.64 NTU	70.7 mV	4.45 ft	150.00 ml/min
3/3/2021 2:36 PM	12:00	6.51 pH	51.15 °F	2,212.4 µS/cm	0.28 mg/L	5.07 NTU	57.8 mV	4.45 ft	150.00 ml/min
3/3/2021 2:39 PM	15:00	6.53 pH	51.14 °F	2,099.3 µS/cm	0.40 mg/L	3.92 NTU	49.1 mV	4.45 ft	150.00 ml/min
3/3/2021 2:42 PM	18:00	6.54 pH	51.07 °F	2,009.9 µS/cm	0.74 mg/L	1.64 NTU	46.0 mV	4.45 ft	150.00 ml/min
3/3/2021 2:45 PM	21:00	6.56 pH	51.28 °F	1,980.2 µS/cm	0.51 mg/L	0.64 NTU	35.8 mV	4.45 ft	150.00 ml/min
3/3/2021 2:48 PM	24:00	6.57 pH	51.30 °F	1,939.5 µS/cm	0.57 mg/L	0.26 NTU	29.2 mV	4.45 ft	150.00 ml/min
3/3/2021 2:51 PM	27:00	6.58 pH	51.33 °F	1,868.4 µS/cm	0.67 mg/L	0.09 NTU	29.0 mV	4.45 ft	150.00 ml/min
3/3/2021 2:54 PM	30:00	6.59 pH	51.39 °F	1,844.7 µS/cm	0.93 mg/L	0.19 NTU	30.9 mV	4.45 ft	150.00 ml/min
3/3/2021 2:57 PM	33:00	6.60 pH	51.52 °F	1,815.9 µS/cm	1.24 mg/L	0.08 NTU	19.6 mV	4.45 ft	150.00 ml/min
3/3/2021 3:00 PM	36:00	6.61 pH	51.47 °F	1,778.4 µS/cm	1.03 mg/L	0.00 NTU	-2.0 mV	4.45 ft	150.00 ml/min
3/3/2021 3:03 PM	38:39	6.61 pH	51.54 °F	1,769.9 µS/cm	1.20 mg/L	0.00 NTU	-5.5 mV	4.45 ft	150.00 ml/min



3/3/2021 3:06 PM	41:39	6.61 pH	51.43 °F	1,800.0 $\mu$ S/cm	1.19 mg/L	0.00 NTU	14.5 mV	4.45 ft	150.00 ml/min
3/3/2021 3:09 PM	44:39	6.62 pH	51.60 °F	1,773.9 $\mu$ S/cm	1.28 mg/L	0.00 NTU	10.4 mV	4.45 ft	150.00 ml/min
3/3/2021 3:12 PM	47:39	6.62 pH	51.53 °F	1,713.2 $\mu$ S/cm	1.28 mg/L	0.00 NTU	-10.9 mV	4.45 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-514	Sample taken 1224, Fina DTW 4.52, ORP didn't stabilize at -10.9

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 11:38:11 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-516</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.38 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 1352.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 11:38 AM	00:00	7.36 pH	48.95 °F	301.02 µS/cm	8.10 mg/L	49.29 NTU	108.2 mV	4.38 ft	150.00 ml/min
3/3/2021 11:41 AM	03:00	7.23 pH	49.00 °F	300.42 µS/cm	6.88 mg/L	8.79 NTU	116.9 mV	4.38 ft	150.00 ml/min
3/3/2021 11:44 AM	06:00	7.23 pH	48.92 °F	293.67 µS/cm	6.92 mg/L	2.47 NTU	122.0 mV	4.38 ft	150.00 ml/min
3/3/2021 11:47 AM	09:01	7.22 pH	48.85 °F	303.57 µS/cm	6.92 mg/L	1.09 NTU	126.3 mV	4.38 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-516	Sample Time 11:52 Final DTW 4.38 ft btoc Final RDO 6.92 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/1/2021 2:27:21 PM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-518</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 12.5 ft</b> <b>Initial Depth to Water: 8.49 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.017" x 1/4"</b> <b>Pump Intake From TOC: 10.5 ft</b> <b>Estimated Total Volume Pumped: 9095 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.07 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
3/1/2021 2:27 PM	00:00	6.95 pH	55.10 °F	606.48 µS/cm	1.51 mg/L	15.76 NTU	59.5 mV	8.49 ft	150.00 ml/min
3/1/2021 2:30 PM	03:00	6.96 pH	53.38 °F	602.25 µS/cm	1.39 mg/L	16.21 NTU	54.4 mV	8.49 ft	150.00 ml/min
3/1/2021 2:33 PM	06:00	6.97 pH	53.07 °F	602.55 µS/cm	1.36 mg/L	15.61 NTU	50.4 mV	8.49 ft	150.00 ml/min
3/1/2021 2:36 PM	09:00	6.98 pH	53.22 °F	600.03 µS/cm	1.21 mg/L	15.09 NTU	46.7 mV	8.49 ft	150.00 ml/min
3/1/2021 2:39 PM	12:00	6.99 pH	53.44 °F	593.65 µS/cm	1.06 mg/L	14.85 NTU	42.4 mV	8.49 ft	150.00 ml/min
3/1/2021 2:42 PM	15:00	7.01 pH	53.96 °F	589.76 µS/cm	0.99 mg/L	14.29 NTU	37.7 mV	8.49 ft	150.00 ml/min
3/1/2021 2:45 PM	18:00	7.02 pH	53.74 °F	582.66 µS/cm	0.92 mg/L	15.97 NTU	33.5 mV	8.49 ft	150.00 ml/min
3/1/2021 2:48 PM	21:00	7.02 pH	54.66 °F	579.98 µS/cm	0.95 mg/L	14.40 NTU	29.9 mV	8.49 ft	150.00 ml/min
3/1/2021 2:51 PM	24:00	7.02 pH	54.59 °F	578.79 µS/cm	0.97 mg/L	14.95 NTU	27.1 mV	8.49 ft	150.00 ml/min
3/1/2021 2:54 PM	27:00	7.02 pH	55.46 °F	573.53 µS/cm	0.99 mg/L	16.50 NTU	25.1 mV	8.49 ft	150.00 ml/min
3/1/2021 2:57 PM	30:00	7.03 pH	54.98 °F	571.31 µS/cm	0.87 mg/L	16.26 NTU	23.0 mV	8.49 ft	150.00 ml/min
3/1/2021 3:00 PM	33:00	7.04 pH	54.25 °F	570.61 µS/cm	0.80 mg/L	15.97 NTU	20.8 mV	8.49 ft	150.00 ml/min
3/1/2021 3:03 PM	36:00	7.05 pH	54.68 °F	569.20 µS/cm	0.79 mg/L	15.92 NTU	18.0 mV	8.49 ft	150.00 ml/min
3/1/2021 3:06 PM	39:00	7.05 pH	54.71 °F	565.28 µS/cm	0.71 mg/L	16.39 NTU	16.0 mV	8.49 ft	150.00 ml/min

3/1/2021 3:09 PM	42:00	7.05 pH	54.20 °F	565.69 µS/cm	0.72 mg/L	16.67 NTU	13.9 mV	8.49 ft	150.00 ml/min
3/1/2021 3:12 PM	45:00	7.07 pH	54.59 °F	561.38 µS/cm	0.67 mg/L	17.35 NTU	11.4 mV	8.49 ft	150.00 ml/min
3/1/2021 3:15 PM	48:00	7.06 pH	54.08 °F	563.91 µS/cm	0.68 mg/L	18.24 NTU	10.9 mV	8.49 ft	150.00 ml/min
3/1/2021 3:18 PM	51:38	7.07 pH	53.83 °F	559.73 µS/cm	0.66 mg/L	18.47 NTU	8.8 mV	8.49 ft	150.00 ml/min
3/1/2021 3:21 PM	54:38	7.08 pH	53.77 °F	555.82 µS/cm	0.62 mg/L	18.19 NTU	7.3 mV	8.49 ft	150.00 ml/min
3/1/2021 3:24 PM	57:38	7.09 pH	53.56 °F	554.39 µS/cm	0.60 mg/L	18.20 NTU	5.8 mV	8.49 ft	150.00 ml/min
3/1/2021 3:27 PM	01:00:38	7.09 pH	53.44 °F	553.31 µS/cm	0.59 mg/L	17.25 NTU	4.1 mV	8.49 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-518	Sample Time: 1540 Final DTW: 8.56 ft btoc Final RDO: 0.59 mg/L ORP did not stabilize
DUP-3	Sample Time: 1540 Well MW-518

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 11:03:15 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-509</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.35 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 7 ft</b> <b>Estimated Total Volume Pumped: 3150 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/2/2021 11:03 AM	00:00	6.95 pH	49.21 °F	7,976.4 µS/cm	1.58 mg/L	0.00 NTU	93.9 mV	3.35 ft	150.00 ml/min
3/2/2021 11:06 AM	03:00	6.97 pH	48.95 °F	3,186.7 µS/cm	1.39 mg/L	0.00 NTU	91.3 mV	3.35 ft	150.00 ml/min
3/2/2021 11:09 AM	06:00	6.95 pH	48.66 °F	2,474.2 µS/cm	3.13 mg/L	0.00 NTU	96.1 mV	3.35 ft	150.00 ml/min
3/2/2021 11:12 AM	09:00	6.98 pH	48.74 °F	3,054.7 µS/cm	3.84 mg/L	0.00 NTU	105.6 mV	3.35 ft	150.00 ml/min
3/2/2021 11:15 AM	12:00	6.97 pH	48.78 °F	3,190.8 µS/cm	4.04 mg/L	0.00 NTU	110.6 mV	3.35 ft	150.00 ml/min
3/2/2021 11:18 AM	15:00	6.98 pH	48.73 °F	3,025.3 µS/cm	4.22 mg/L	0.00 NTU	114.3 mV	3.35 ft	150.00 ml/min
3/2/2021 11:21 AM	18:00	6.98 pH	48.84 °F	3,011.9 µS/cm	4.35 mg/L	0.00 NTU	118.0 mV	3.35 ft	150.00 ml/min
3/2/2021 11:24 AM	21:00	7.00 pH	48.86 °F	0.08 µS/cm	11.92 mg/L	0.00 NTU	120.5 mV	3.35 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-509	Sample Time 11:42 Final DTW 3.35 ft btoc Final RDO 4.35 mg/L  Parameters did stabilize. Final reading taken when disconnecting aqua troll
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# Low-Flow Test Report:

Test Date / Time: 3/3/2021 10:29:14 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-515</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.72 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 5400 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 10:29 AM	00:00	6.94 pH	49.41 °F	4,744.0 µS/cm	5.14 mg/L	1.52 NTU	97.7 mV	4.72 ft	150.00 ml/min
3/3/2021 10:32 AM	03:00	6.99 pH	49.52 °F	3,895.5 µS/cm	0.63 mg/L	0.00 NTU	60.4 mV	4.72 ft	150.00 ml/min
3/3/2021 10:35 AM	06:00	7.07 pH	49.32 °F	3,135.2 µS/cm	0.50 mg/L	0.00 NTU	51.9 mV	4.72 ft	150.00 ml/min
3/3/2021 10:38 AM	09:00	7.09 pH	49.27 °F	2,849.8 µS/cm	0.59 mg/L	0.00 NTU	48.5 mV	4.72 ft	150.00 ml/min
3/3/2021 10:41 AM	12:00	7.08 pH	49.30 °F	2,776.5 µS/cm	0.69 mg/L	0.00 NTU	45.4 mV	4.72 ft	150.00 ml/min
3/3/2021 10:44 AM	15:00	7.08 pH	49.34 °F	2,682.6 µS/cm	0.76 mg/L	0.00 NTU	43.4 mV	4.72 ft	150.00 ml/min
3/3/2021 10:47 AM	18:00	7.07 pH	49.25 °F	2,659.4 µS/cm	0.92 mg/L	0.00 NTU	43.3 mV	4.72 ft	150.00 ml/min
3/3/2021 10:50 AM	21:00	7.06 pH	49.39 °F	2,651.9 µS/cm	1.07 mg/L	0.00 NTU	42.4 mV	4.72 ft	150.00 ml/min
3/3/2021 10:53 AM	24:00	7.06 pH	49.39 °F	2,623.0 µS/cm	1.23 mg/L	0.00 NTU	41.9 mV	4.72 ft	150.00 ml/min
3/3/2021 10:56 AM	27:00	7.05 pH	49.42 °F	2,616.2 µS/cm	1.40 mg/L	0.00 NTU	42.0 mV	4.72 ft	150.00 ml/min
3/3/2021 10:59 AM	30:00	7.05 pH	49.45 °F	2,582.9 µS/cm	1.59 mg/L	0.00 NTU	42.7 mV	4.72 ft	150.00 ml/min
3/3/2021 11:02 AM	33:00	7.05 pH	49.56 °F	2,552.2 µS/cm	1.76 mg/L	0.00 NTU	43.8 mV	4.72 ft	150.00 ml/min



3/3/2021 11:05 AM	36:00	7.05 pH	49.55 °F	2,555.0 µS/cm	1.84 mg/L	0.00 NTU	44.8 mV	4.72 ft	150.00 ml/min
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## Samples

Sample ID:	Description:
MW-515	Sample Time: 11:12 Final DTW 4.72 ft btoc Final RDO 1.84 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 12:19:27 PM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-517</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.12 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 1802.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/3/2021 12:19 PM	00:00	7.30 pH	50.23 °F	220.95 µS/cm	11.54 mg/L	0.00 NTU	150.5 mV	5.12 ft	150.00 ml/min
3/3/2021 12:22 PM	03:00	7.12 pH	50.09 °F	391.41 µS/cm	7.78 mg/L	0.00 NTU	156.7 mV	5.12 ft	150.00 ml/min
3/3/2021 12:25 PM	06:00	7.15 pH	50.03 °F	378.70 µS/cm	7.84 mg/L	0.78 NTU	155.5 mV	5.12 ft	150.00 ml/min
3/3/2021 12:28 PM	09:00	7.16 pH	49.90 °F	352.58 µS/cm	8.25 mg/L	0.00 NTU	155.5 mV	5.12 ft	150.00 ml/min
3/3/2021 12:31 PM	12:01	7.16 pH	49.64 °F	357.86 µS/cm	8.19 mg/L	0.01 NTU	156.3 mV	5.12 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-517	Sample Time 12:42 Final DTW 5.12 ft btoc Final RDO 8.11

# Low-Flow Test Report:

Test Date / Time: 3/4/2021 9:24:53 AM

Project: Edmonds Terminal 1Q21

Operator Name: TB

<b>Location Name: MW-519</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.91 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

42, partly 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 %		
3/4/2021 9:24 AM	00:00	6.62 pH	47.89 °F	839.86 µS/cm	5.37 mg/L		80.8 mV	6.91 ft	150.00 ml/min
3/4/2021 9:27 AM	03:00	6.55 pH	48.69 °F	833.27 µS/cm	0.75 mg/L		72.2 mV	6.91 ft	150.00 ml/min
3/4/2021 9:30 AM	06:00	6.54 pH	48.71 °F	834.22 µS/cm	0.34 mg/L		69.1 mV	6.91 ft	150.00 ml/min
3/4/2021 9:33 AM	09:00	6.55 pH	48.69 °F	831.10 µS/cm	0.28 mg/L		69.4 mV	6.91 ft	150.00 ml/min
3/4/2021 9:36 AM	12:00	6.55 pH	48.83 °F	827.29 µS/cm	0.25 mg/L		66.7 mV	6.91 ft	150.00 ml/min
3/4/2021 9:39 AM	15:00	6.57 pH	48.83 °F	816.78 µS/cm	0.28 mg/L		62.4 mV	6.91 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-519	Sample Time: 0941 Final DTW: 6.95 ft btoc Final RDO: 0.28



# Low-Flow Test Report:

Test Date / Time: 3/4/2021 9:17:37 AM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-521</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.55 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

45, overcast

## 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 %		
3/4/2021 9:17 AM	00:00	7.06 pH	45.67 °F	519.21 µS/cm	6.22 mg/L	0.00 NTU	141.8 mV	6.55 ft	150.00 ml/min
3/4/2021 9:20 AM	03:00	7.01 pH	47.78 °F	498.32 µS/cm	0.72 mg/L	0.00 NTU	129.6 mV	6.55 ft	150.00 ml/min
3/4/2021 9:23 AM	06:00	6.99 pH	48.50 °F	493.22 µS/cm	0.50 mg/L	0.94 NTU	125.2 mV	6.55 ft	150.00 ml/min
3/4/2021 9:26 AM	09:00	6.98 pH	48.87 °F	518.47 µS/cm	0.45 mg/L	0.00 NTU	120.2 mV	6.55 ft	150.00 ml/min
3/4/2021 9:29 AM	12:00	6.97 pH	49.10 °F	514.25 µS/cm	0.42 mg/L	0.00 NTU	117.0 mV	6.55 ft	150.00 ml/min
3/4/2021 9:32 AM	15:00	6.98 pH	49.28 °F	513.07 µS/cm	0.44 mg/L	0.00 NTU	114.4 mV	6.55 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-521	Sample Time: 0936 Final DTW: 6.55 ft btoc Final RDO: 0.44 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/3/2021 12:16:06 PM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-522</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.23 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.07 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

50, 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 %		
3/3/2021 12:16 PM	00:00	7.18 pH	52.16 °F	715.56 µS/cm	4.50 mg/L	17.54 NTU	92.9 mV	8.23 ft	150.00 ml/min
3/3/2021 12:19 PM	03:00	6.95 pH	51.10 °F	566.01 µS/cm	0.38 mg/L	7.73 NTU	98.7 mV	8.23 ft	150.00 ml/min
3/3/2021 12:22 PM	06:00	6.93 pH	50.71 °F	572.77 µS/cm	0.21 mg/L	10.72 NTU	84.2 mV	8.23 ft	150.00 ml/min
3/3/2021 12:25 PM	09:00	6.93 pH	50.56 °F	571.63 µS/cm	0.17 mg/L	4.51 NTU	77.8 mV	8.23 ft	150.00 ml/min
3/3/2021 12:28 PM	12:00	6.92 pH	50.49 °F	562.42 µS/cm	0.16 mg/L	3.93 NTU	77.1 mV	8.23 ft	150.00 ml/min
3/3/2021 12:31 PM	15:00	6.91 pH	50.37 °F	556.98 µS/cm	0.16 mg/L	2.35 NTU	77.2 mV	8.23 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-522	Sample Time: 1236 Final DTW: 8.29 ft btoc Final RDO: 0.16 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 9:26:44 AM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-525</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.08 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 2.18 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
3/2/2021 9:26 AM	00:00	6.38 pH	46.48 °F	191.59 µS/cm	4.72 mg/L	85.92 NTU	113.9 mV	6.08 ft	150.00 ml/min
3/2/2021 9:29 AM	03:00	5.94 pH	47.34 °F	191.93 µS/cm	0.43 mg/L	53.90 NTU	106.8 mV	6.08 ft	150.00 ml/min
3/2/2021 9:32 AM	06:00	5.88 pH	47.56 °F	174.91 µS/cm	0.22 mg/L	52.49 NTU	102.7 mV	6.08 ft	150.00 ml/min
3/2/2021 9:35 AM	09:00	5.90 pH	47.78 °F	119.02 µS/cm	0.18 mg/L	51.90 NTU	96.5 mV	6.08 ft	150.00 ml/min
3/2/2021 9:38 AM	12:00	5.88 pH	48.03 °F	106.13 µS/cm	0.15 mg/L	42.26 NTU	92.4 mV	6.08 ft	150.00 ml/min
3/2/2021 9:41 AM	15:00	5.91 pH	48.21 °F	91.46 µS/cm	0.14 mg/L	30.46 NTU	86.2 mV	6.08 ft	150.00 ml/min
3/2/2021 9:44 AM	18:00	5.92 pH	48.36 °F	66.33 µS/cm	0.15 mg/L	43.23 NTU	81.7 mV	6.08 ft	150.00 ml/min
3/2/2021 9:47 AM	21:00	5.92 pH	48.71 °F	147.08 µS/cm	0.15 mg/L	48.48 NTU	75.9 mV	6.08 ft	150.00 ml/min
3/2/2021 9:50 AM	24:00	5.93 pH	48.92 °F	163.51 µS/cm	0.15 mg/L	42.03 NTU	68.9 mV	6.08 ft	150.00 ml/min
3/2/2021 9:53 AM	27:00	5.94 pH	49.08 °F	168.73 µS/cm	0.17 mg/L	40.53 NTU	64.3 mV	6.08 ft	150.00 ml/min
3/2/2021 9:56 AM	30:00	5.95 pH	49.21 °F	174.39 µS/cm	0.24 mg/L	43.98 NTU	60.9 mV	6.08 ft	150.00 ml/min
3/2/2021 9:59 AM	33:00	5.97 pH	49.43 °F	209.55 µS/cm	0.30 mg/L	32.94 NTU	55.3 mV	6.08 ft	150.00 ml/min
3/2/2021 10:02 AM	36:00	6.05 pH	49.54 °F	246.39 µS/cm	0.33 mg/L	28.35 NTU	48.4 mV	6.08 ft	150.00 ml/min
3/2/2021 10:05 AM	39:00	6.09 pH	49.62 °F	304.87 µS/cm	0.21 mg/L	17.10 NTU	41.7 mV	6.08 ft	150.00 ml/min
3/2/2021 10:08 AM	42:00	6.06 pH	49.67 °F	296.53 µS/cm	0.32 mg/L	15.85 NTU	41.1 mV	6.08 ft	150.00 ml/min



3/2/2021 10:11 AM	45:00	6.11 pH	49.86 °F	337.28 µS/cm	0.19 mg/L	10.44 NTU	35.4 mV	6.08 ft	150.00 ml/min
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## Samples

Sample ID:	Description:
MW-525	Sample Time: 1016 Final DTW: 9.25 ft btoc Final RDO: 0.19 mg/L Spec conductivity, RDO, ORP did not stabilize after 45 minutes

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 12:15:10 PM

Project: Edmonds Terminal 1Q21

Operator Name: JVA

<b>Location Name: MW-526</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 13 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 10 ft</b> <b>Initial Depth to Water: 4.87 m</b>	<b>Pump Type: Geotech geopump series 2</b> <b>Tubing Type: Polyethylene 0.170 x .25</b> <b>Pump Intake From TOC: 5 ft</b> <b>Estimated Total Volume Pumped: 4127.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.5 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 40 F

## 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 %		
3/2/2021 12:15 PM	00:00	5.76 pH	49.83 °F	0.08 µS/cm	9.86 mg/L	0.03 NTU	112.9 mV	4.87 m	150.00 ml/min
3/2/2021 12:18 PM	03:31	8.59 pH	49.38 °F	0.08 µS/cm	10.49 mg/L	0.00 NTU	140.0 mV	4.87 m	150.00 ml/min
3/2/2021 12:21 PM	06:31	9.85 pH	49.25 °F	0.08 µS/cm	10.42 mg/L	3.91 NTU	141.1 mV	4.87 m	150.00 ml/min
3/2/2021 12:24 PM	09:31	9.46 pH	49.47 °F	0.08 µS/cm	10.19 mg/L	4.00 NTU	140.3 mV	4.87 m	150.00 ml/min
3/2/2021 12:27 PM	12:31	8.83 pH	49.97 °F	0.08 µS/cm	9.93 mg/L	2.51 NTU	133.4 mV	4.87 m	150.00 ml/min
3/2/2021 12:30 PM	15:31	11.43 pH	50.60 °F	0.08 µS/cm	9.65 mg/L	4.68 NTU	124.6 mV	4.87 m	150.00 ml/min
3/2/2021 12:33 PM	18:31	9.89 pH	51.23 °F	0.08 µS/cm	9.37 mg/L	4.68 NTU	138.1 mV	4.87 m	150.00 ml/min
3/2/2021 12:36 PM	21:31	10.05 pH	51.77 °F	0.08 µS/cm	9.13 mg/L	1.78 NTU	140.2 mV	4.87 m	150.00 ml/min
3/2/2021 12:39 PM	24:31	9.67 pH	52.14 °F	0.07 µS/cm	8.86 mg/L	1.71 NTU	143.2 mV	4.87 m	150.00 ml/min
3/2/2021 12:42 PM	27:31	10.07 pH	52.37 °F	0.07 µS/cm	8.60 mg/L	1.74 NTU	139.9 mV	4.87 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-526	Final DTW 5.33, ORP 143.2, sample time 0944

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# Low-Flow Test Report:

**Test Date / Time:** 3/2/2021 1:34:54 PM

**Project:** Edmonds Terminal 1Q21 (2)

**Operator Name:** JVA

<p><b>Location Name: MW-531</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 13 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 7.59 ft</b></p>	<p><b>Pump Type: Geotech geopump series 2</b>  <b>Tubing Type: Polyethylene 0.170 x .25</b>  <b>Pump Intake From TOC: 5 ft</b>  <b>Estimated Total Volume Pumped: 2700 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.05 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 697450</b></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 %		
3/2/2021 1:34 PM	00:00	6.70 pH	48.49 °F	3,110.9 µS/cm	4.36 mg/L	0.04 NTU	62.2 mV	7.59 ft	150.00 ml/min
3/2/2021 1:37 PM	03:00	6.70 pH	49.34 °F	3,049.4 µS/cm	3.92 mg/L	0.00 NTU	63.3 mV	7.59 ft	150.00 ml/min
3/2/2021 1:40 PM	06:00	6.71 pH	48.98 °F	2,909.6 µS/cm	3.87 mg/L	0.00 NTU	66.8 mV	7.59 ft	150.00 ml/min
3/2/2021 1:43 PM	09:00	6.71 pH	48.66 °F	2,648.0 µS/cm	3.47 mg/L	0.00 NTU	68.3 mV	7.59 ft	150.00 ml/min
3/2/2021 1:46 PM	12:00	6.71 pH	48.54 °F	2,496.6 µS/cm	3.31 mg/L	0.00 NTU	70.6 mV	7.59 ft	150.00 ml/min
3/2/2021 1:49 PM	15:00	6.70 pH	48.92 °F	2,343.2 µS/cm	3.35 mg/L	0.00 NTU	73.8 mV	7.59 ft	150.00 ml/min
3/2/2021 1:52 PM	18:00	6.70 pH	49.19 °F	2,271.8 µS/cm	3.35 mg/L	0.00 NTU	76.2 mV	7.59 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-531	Final ORP 76.2, sample time 1044, ms/msd taken, final dtw 7.64

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 11:01:55 AM

Project: Edmonds Terminal 1Q21

Operator Name: KZ

<b>Location Name: MW-532</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.17 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4050 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.78 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

50, light rain

## 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 %		
3/2/2021 11:01 AM	00:00	6.13 pH	49.88 °F	161.05 µS/cm	1.12 mg/L	22.13 NTU	60.8 mV	7.17 ft	150.00 ml/min
3/2/2021 11:04 AM	03:00	6.13 pH	49.45 °F	128.08 µS/cm	0.31 mg/L	17.15 NTU	61.2 mV	7.17 ft	150.00 ml/min
3/2/2021 11:07 AM	06:00	6.13 pH	49.21 °F	118.74 µS/cm	0.36 mg/L	16.18 NTU	62.1 mV	7.17 ft	150.00 ml/min
3/2/2021 11:10 AM	09:00	6.13 pH	49.08 °F	110.91 µS/cm	0.25 mg/L	9.89 NTU	62.6 mV	7.17 ft	150.00 ml/min
3/2/2021 11:13 AM	12:00	6.12 pH	49.02 °F	102.65 µS/cm	0.21 mg/L	10.88 NTU	63.6 mV	7.17 ft	150.00 ml/min
3/2/2021 11:16 AM	15:00	6.13 pH	49.12 °F	75.32 µS/cm	0.18 mg/L	3.95 NTU	64.1 mV	7.17 ft	150.00 ml/min
3/2/2021 11:19 AM	18:00	6.13 pH	49.15 °F	105.20 µS/cm	0.17 mg/L	6.15 NTU	64.5 mV	7.17 ft	150.00 ml/min
3/2/2021 11:22 AM	21:00	6.11 pH	49.19 °F	82.68 µS/cm	0.15 mg/L	5.46 NTU	66.0 mV	7.17 ft	150.00 ml/min
3/2/2021 11:25 AM	24:00	6.13 pH	49.20 °F	79.00 µS/cm	0.14 mg/L	5.81 NTU	65.7 mV	7.17 ft	150.00 ml/min
3/2/2021 11:28 AM	27:00	6.17 pH	49.32 °F	84.26 µS/cm	0.15 mg/L	1.61 NTU	64.4 mV	7.17 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-532

Sample Time: 1136  
Final DTW:  
Final RDO: 0.15 mg/L

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 8:37:50 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-533</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.4 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2400 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/2/2021 8:37 AM	00:00	6.86 pH	45.69 °F	26,427 µS/cm	7.98 mg/L	1.69 NTU	174.3 mV	4.40 ft	150.00 ml/min
3/2/2021 8:40 AM	03:00	6.88 pH	45.64 °F	26,306 µS/cm	6.92 mg/L	0.00 NTU	170.4 mV	4.40 ft	150.00 ml/min
3/2/2021 8:43 AM	06:00	6.89 pH	45.64 °F	26,162 µS/cm	6.71 mg/L	0.00 NTU	168.1 mV	4.40 ft	150.00 ml/min
3/2/2021 8:46 AM	09:00	6.89 pH	45.73 °F	26,075 µS/cm	6.65 mg/L	0.00 NTU	166.4 mV	4.40 ft	150.00 ml/min
3/2/2021 8:50 AM	12:33	6.90 pH	45.77 °F	26,017 µS/cm	6.61 mg/L	0.00 NTU	164.9 mV	4.40 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-533	Sample Time: 9:02 Final DTW: 4.40 Final RDO: 6.61 mg/L



# Low-Flow Test Report:

Test Date / Time: 3/2/2021 9:43:56 AM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-534</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.35 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 6755 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/2/2021 9:43 AM	00:00	7.06 pH	48.19 °F	936.79 µS/cm	3.39 mg/L	35.48 NTU	82.2 mV	3.35 ft	150.00 ml/min
3/2/2021 9:46 AM	03:00	6.79 pH	48.07 °F	3,945.0 µS/cm	0.78 mg/L	12.57 NTU	52.0 mV	3.35 ft	150.00 ml/min
3/2/2021 9:49 AM	06:00	6.92 pH	48.17 °F	2,021.0 µS/cm	0.74 mg/L	7.32 NTU	38.2 mV	3.35 ft	150.00 ml/min
3/2/2021 9:52 AM	09:00	6.90 pH	48.24 °F	2,089.1 µS/cm	0.54 mg/L	1.12 NTU	31.3 mV	3.35 ft	150.00 ml/min
3/2/2021 9:55 AM	12:00	6.81 pH	48.43 °F	3,332.4 µS/cm	0.53 mg/L	2.12 NTU	18.5 mV	3.35 ft	150.00 ml/min
3/2/2021 9:58 AM	15:00	6.91 pH	48.34 °F	2,111.5 µS/cm	0.53 mg/L	0.32 NTU	8.2 mV	3.35 ft	150.00 ml/min
3/2/2021 10:01 AM	18:00	6.88 pH	48.34 °F	2,383.5 µS/cm	0.48 mg/L	0.03 NTU	5.7 mV	3.35 ft	150.00 ml/min
3/2/2021 10:04 AM	21:00	6.88 pH	48.44 °F	2,328.0 µS/cm	0.39 mg/L	4.74 NTU	-2.4 mV	3.35 ft	150.00 ml/min
3/2/2021 10:07 AM	24:01	6.88 pH	48.35 °F	2,351.8 µS/cm	0.35 mg/L	0.00 NTU	-5.6 mV	3.35 ft	150.00 ml/min
3/2/2021 10:10 AM	27:01	6.88 pH	48.19 °F	2,402.4 µS/cm	0.32 mg/L	0.21 NTU	-9.8 mV	3.35 ft	150.00 ml/min
3/2/2021 10:13 AM	30:01	6.87 pH	48.27 °F	2,428.9 µS/cm	0.30 mg/L	0.00 NTU	-13.6 mV	3.35 ft	150.00 ml/min
3/2/2021 10:16 AM	33:02	6.86 pH	48.26 °F	2,477.6 µS/cm	0.29 mg/L	0.00 NTU	-16.5 mV	3.35 ft	150.00 ml/min

3/2/2021 10:19 AM	36:02	6.86 pH	48.42 °F	2,505.3 µS/cm	0.27 mg/L	0.00 NTU	-19.2 mV	3.35 ft	150.00 ml/min
3/2/2021 10:22 AM	39:02	6.86 pH	48.47 °F	2,526.3 µS/cm	0.26 mg/L	0.00 NTU	-22.9 mV	3.35 ft	150.00 ml/min
3/2/2021 10:25 AM	42:02	6.80 pH	48.28 °F	2,442.4 µS/cm	0.24 mg/L	0.00 NTU	-22.7 mV	3.35 ft	150.00 ml/min
3/2/2021 10:28 AM	45:02	6.85 pH	48.31 °F	2,556.9 µS/cm	0.24 mg/L	0.00 NTU	-25.8 mV	3.35 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-534	Sample Time 10:42 Final DTW 3.40 ft btoc Final RDO 0.24 mg/L ORP did not stabilize after 45 minutes

# Low-Flow Test Report:

Test Date / Time: 3/2/2021 12:29:06 PM

Project: Edmonds Terminal 1Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-535</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.7 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 7 ft</b> <b>Estimated Total Volume Pumped: 2252.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
3/2/2021 12:29 PM	00:00	7.08 pH	46.65 °F	18,686 µS/cm	9.05 mg/L	5.25 NTU	166.6 mV	4.70 ft	150.00 ml/min
3/2/2021 12:32 PM	03:00	7.20 pH	46.09 °F	18,815 µS/cm	6.07 mg/L	3.73 NTU	161.4 mV	4.70 ft	150.00 ml/min
3/2/2021 12:35 PM	06:00	7.23 pH	45.87 °F	18,854 µS/cm	5.22 mg/L	1.19 NTU	156.7 mV	4.70 ft	150.00 ml/min
3/2/2021 12:38 PM	09:01	7.24 pH	45.80 °F	18,881 µS/cm	4.97 mg/L	0.00 NTU	153.7 mV	4.70 ft	150.00 ml/min
3/2/2021 12:41 PM	12:01	7.25 pH	45.92 °F	18,881 µS/cm	4.85 mg/L	0.00 NTU	151.4 mV	4.70 ft	150.00 ml/min
3/2/2021 12:44 PM	15:01	7.25 pH	45.87 °F	18,886 µS/cm	4.74 mg/L	0.00 NTU	149.8 mV	4.70 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-535	Sample Time 13:02 Final DTW: 4.75 ft btoc Final RDO: 4.74 mg/L





6-22-21

## 2Q21 GWM Gauging sheet

well ID	TIME	DTW <sup>hr</sup> <sub>total</sub>	PID	well ID	TIME	DTW	PID
LM-2	0944	1.54	0.0	MW-109	0952	6.85	0.0
MW-8R	0858	8.45	0.6	MW-134X	1008	26.11	0.0
MW-20R	0921	6.96	9.3	MW-135	0912	11.06	0.0
MW-101	0925	9.06	0.9	MW-136	0858	8.27	0.1
MW-104	0923	8.47	0.0	MW-147	0853	5.93	0.0
MW-129R	0920	5.41	0.0	MW-149R	0843	7.41	0.0
MW-139R	0929	7.12	0.0	MW-150	0836	7.13	0.0
MW-518	0927	8.53	0.0	MW-203	1017	22.44	0.0
MW-522	0900	8.40	0.0	MW-500	0916	5.89	0.0
MW-530	0941	6.84	0.0	MW-501	0918	<del>4.82</del> 4.82	0.6
MW-533	0935	5.10	0.0	MW-523	0855	8.10	0.0
MW-535	0937	4.93	0.0	MW-524	0848	7.92	0.0
MW-126	0911	5.65	0.0	MW-527	0907	9.72	0.0
MW-143	0909	5.40	1.1	MW-528	0854	10.50	0.0
MW-502	0842	5.34	0.2	MW-151	0850	5.79	0.0
MW-503	0847	5.24	0.2				
MW-504	0959	6.62	0.0				
MW-505	0955	4.69	0.0				
MW-506	0945	6.69	0.0				
MW-507	0943	6.85	0.0				
MW-509	0949	3.57	0.0				
MW-511	1013	8.06	0.0				
MW-512	1016	6.55	0.6				
MW-513	1006	4.43	0.0				
MW-514	1008	4.72	0.0				
MW-515	1000	4.93	0.0				
MW-516	1002	4.59	0.0				
MW-517	1004	5.33	0.0				
MW-519	0906	7.14	0.6				
MW-520	0904	7.84	0.0				
MW-521	0902	6.73	0.0				
MW-525	0916	6.53	0.0				
MW-526	0835	5.28	0.3				
MW-531	0914	7.79	0.0				
MW-532	0918	7.45	0.0				
MW-534	0933	3.52	0.0				
MW-ER	0926	7.02	1.6				
MW-13U	1024	17.14	0.0				
MW-106	0949	5.67	0.0				

Scale: 1 square =

Rate in the Rain



# Low-Flow Test Report:

**Test Date / Time:** 6/23/2021 10:43:44 AM

**Project:** Edmonds Terminal 2Q21 (6)

**Operator Name:** Joseph Sepiol

<p><b>Location Name: LM-2</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 5.5 ft</b>  <b>Top of Screen: 2.5 ft</b>  <b>Total Depth: 8 ft</b>  <b>Initial Depth to Water: 1.55 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 9 ft</b>  <b>Estimated Total Volume Pumped: 6750 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.86 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 457166</b></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 %		
6/23/2021 10:43 AM	00:00	6.13 pH	64.82 °F	14.94 µS/cm	7.63 mg/L	56.92 NTU	-17.9 mV	1.55 ft	150.00 ml/min
6/23/2021 10:46 AM	03:00	5.93 pH	61.53 °F	10,757 µS/cm	0.22 mg/L	50.43 NTU	-22.5 mV	1.55 ft	150.00 ml/min
6/23/2021 10:49 AM	06:00	5.94 pH	61.73 °F	10,672 µS/cm	0.18 mg/L	37.54 NTU	-30.3 mV	1.55 ft	150.00 ml/min
6/23/2021 10:52 AM	09:00	5.95 pH	61.73 °F	10,576 µS/cm	0.19 mg/L	41.49 NTU	-33.6 mV	1.55 ft	150.00 ml/min
6/23/2021 10:55 AM	12:00	5.95 pH	61.88 °F	10,454 µS/cm	0.21 mg/L	42.30 NTU	-34.4 mV	1.55 ft	150.00 ml/min
6/23/2021 10:58 AM	15:00	5.96 pH	62.10 °F	10,377 µS/cm	0.28 mg/L	36.41 NTU	-34.6 mV	1.55 ft	150.00 ml/min
6/23/2021 11:01 AM	18:00	5.96 pH	62.90 °F	10,364 µS/cm	0.34 mg/L	34.75 NTU	-32.4 mV	1.55 ft	150.00 ml/min
6/23/2021 11:04 AM	21:00	5.96 pH	63.02 °F	10,391 µS/cm	0.41 mg/L	22.51 NTU	-30.6 mV	1.55 ft	150.00 ml/min
6/23/2021 11:07 AM	24:00	5.96 pH	63.29 °F	10,344 µS/cm	0.38 mg/L	19.96 NTU	-27.9 mV	1.55 ft	150.00 ml/min
6/23/2021 11:10 AM	27:00	5.97 pH	63.18 °F	10,368 µS/cm	0.42 mg/L	18.69 NTU	-12.7 mV	1.55 ft	150.00 ml/min
6/23/2021 11:13 AM	30:00	5.97 pH	63.00 °F	10,251 µS/cm	0.48 mg/L	17.18 NTU	-7.6 mV	1.55 ft	150.00 ml/min
6/23/2021 11:16 AM	33:00	5.97 pH	63.25 °F	10,247 µS/cm	0.37 mg/L	16.82 NTU	-14.9 mV	1.55 ft	150.00 ml/min
6/23/2021 11:19 AM	36:00	5.98 pH	63.28 °F	10,229 µS/cm	0.40 mg/L	18.48 NTU	-9.4 mV	1.55 ft	150.00 ml/min
6/23/2021 11:22 AM	39:00	5.98 pH	63.34 °F	10,218 µS/cm	0.31 mg/L	18.77 NTU	-10.2 mV	1.55 ft	150.00 ml/min

6/23/2021 11:25 AM	42:00	5.98 pH	63.18 °F	10,198 µS/cm	0.31 mg/L	17.78 NTU	-25.6 mV	1.55 ft	150.00 ml/min
6/23/2021 11:28 AM	45:00	5.99 pH	63.19 °F	10,178 µS/cm	0.26 mg/L	16.35 NTU	-36.4 mV	1.55 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
LM-2	<p>Sample Time: 1136            Final DTW: 2.41 ft            Final DRO: 0.01 mg/L            Ferrous Iron: 2.0 mg/L</p> <p>Bio sheen in container            Yellow color            Slight petroleum odor            Foam formed from discharge</p>



# Low-Flow Test Report:

Test Date / Time: 6/23/2021 12:20:27 PM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-8R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.42 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny 80F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 12:20 PM	00:00	6.57 pH	59.34 °F	1,112.0 µS/cm	2.71 mg/L	45.0 mV	8.42 ft	150.00 ml/min
6/23/2021 12:23 PM	03:00	6.57 pH	58.42 °F	1,124.9 µS/cm	1.47 mg/L	84.7 mV	8.42 ft	150.00 ml/min
6/23/2021 12:26 PM	06:00	6.57 pH	58.24 °F	1,107.4 µS/cm	1.47 mg/L	100.1 mV	8.42 ft	150.00 ml/min
6/23/2021 12:29 PM	09:00	6.57 pH	58.13 °F	1,103.2 µS/cm	1.46 mg/L	111.5 mV	8.42 ft	150.00 ml/min
6/23/2021 12:32 PM	12:00	6.56 pH	57.97 °F	1,095.2 µS/cm	1.43 mg/L	120.8 mV	8.42 ft	150.00 ml/min
6/23/2021 12:35 PM	15:00	6.57 pH	57.99 °F	1,105.1 µS/cm	1.44 mg/L	128.5 mV	8.42 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-8R	Sample Time: 12:58 Final DTW: 8.42 ft btoc Final RDO: 1.44 mg/L Ferrous Iron 0.0 mg/L



# Low-Flow Test Report:

Test Date / Time: 6/23/2021 12:38:21 PM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-20R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4 ft</b> <b>Total Depth: 14.5 ft</b> <b>Initial Depth to Water: 7.02 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.2 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70

## 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 %		
6/23/2021 12:38 PM	00:00	6.75 pH	60.32 °F	34,608 µS/cm	0.98 mg/L	34.98 NTU	-30.0 mV	7.02 ft	150.00 ml/min
6/23/2021 12:41 PM	03:00	6.81 pH	59.89 °F	34,494 µS/cm	0.31 mg/L	39.39 NTU	-38.7 mV	7.02 ft	150.00 ml/min
6/23/2021 12:44 PM	06:00	6.79 pH	59.41 °F	33,481 µS/cm	0.22 mg/L	33.29 NTU	-48.2 mV	7.02 ft	150.00 ml/min
6/23/2021 12:47 PM	09:00	6.70 pH	59.26 °F	32,108 µS/cm	0.19 mg/L	32.51 NTU	-53.3 mV	7.02 ft	150.00 ml/min
6/23/2021 12:50 PM	12:00	6.64 pH	59.16 °F	31,519 µS/cm	0.17 mg/L	31.90 NTU	-56.3 mV	7.02 ft	150.00 ml/min
6/23/2021 12:53 PM	15:00	6.58 pH	59.26 °F	30,593 µS/cm	0.15 mg/L	31.92 NTU	-59.3 mV	7.02 ft	150.00 ml/min
6/23/2021 12:56 PM	18:00	6.52 pH	59.37 °F	29,602 µS/cm	0.14 mg/L	32.18 NTU	-62.7 mV	7.02 ft	150.00 ml/min
6/23/2021 12:59 PM	21:00	6.49 pH	59.30 °F	29,302 µS/cm	0.12 mg/L	36.36 NTU	-65.4 mV	7.02 ft	150.00 ml/min
6/23/2021 1:02 PM	24:00	6.50 pH	59.13 °F	29,436 µS/cm	0.11 mg/L	38.62 NTU	-68.1 mV	7.02 ft	150.00 ml/min
6/23/2021 1:05 PM	27:00	6.45 pH	59.31 °F	28,335 µS/cm	0.10 mg/L	37.10 NTU	-72.1 mV	7.02 ft	150.00 ml/min
6/23/2021 1:08 PM	30:00	6.44 pH	59.10 °F	28,064 µS/cm	0.09 mg/L	36.88 NTU	-75.3 mV	7.02 ft	150.00 ml/min
6/23/2021 1:11 PM	33:00	6.43 pH	58.91 °F	28,002 µS/cm	0.08 mg/L	37.74 NTU	-79.0 mV	7.02 ft	150.00 ml/min

6/23/2021 1:14 PM	36:00	6.43 pH	59.28 °F	28,632 µS/cm	0.09 mg/L	38.03 NTU	-82.3 mV	7.02 ft	150.00 ml/min
6/23/2021 1:17 PM	39:00	6.42 pH	59.62 °F	28,286 µS/cm	0.09 mg/L	38.72 NTU	-85.7 mV	7.02 ft	150.00 ml/min
6/23/2021 1:20 PM	42:00	6.42 pH	59.83 °F	28,239 µS/cm	0.09 mg/L	39.81 NTU	-88.2 mV	7.02 ft	150.00 ml/min
6/23/2021 1:23 PM	45:00	6.42 pH	59.96 °F	28,323 µS/cm	0.09 mg/L	40.79 NTU	-90.6 mV	7.02 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-20R	Sample Time: 13:22 Final DTW: 7.07 ft btoc Final RDO: 0.09 mg/L Ferrous Iron: 0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 10:17:57 AM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-101</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.9 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 4815 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

Sunny, 67 F

## 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 %		
6/24/2021 10:17 AM	00:00	6.64 pH	60.97 °F	449.76 µS/cm	2.22 mg/L	76.21 NTU	-33.6 mV	8.90 ft	150.00 ml/min
6/24/2021 10:20 AM	03:00	6.65 pH	59.65 °F	454.53 µS/cm	2.81 mg/L	76.90 NTU	-38.2 mV	8.90 ft	150.00 ml/min
6/24/2021 10:23 AM	06:00	6.66 pH	58.83 °F	458.19 µS/cm	2.93 mg/L	79.84 NTU	-30.7 mV	8.90 ft	150.00 ml/min
6/24/2021 10:26 AM	09:00	6.66 pH	58.61 °F	459.16 µS/cm	1.31 mg/L	87.75 NTU	-28.2 mV	8.90 ft	150.00 ml/min
6/24/2021 10:29 AM	12:00	6.67 pH	58.49 °F	459.88 µS/cm	0.65 mg/L	92.93 NTU	-31.3 mV	8.90 ft	150.00 ml/min
6/24/2021 10:32 AM	15:00	6.67 pH	58.40 °F	459.80 µS/cm	0.51 mg/L	102.20 NTU	-33.2 mV	8.90 ft	150.00 ml/min
6/24/2021 10:35 AM	18:00	6.67 pH	58.29 °F	457.38 µS/cm	0.41 mg/L	107.14 NTU	-36.6 mV	8.90 ft	150.00 ml/min
6/24/2021 10:38 AM	21:00	6.67 pH	58.28 °F	457.56 µS/cm	0.36 mg/L	114.69 NTU	-38.7 mV	8.90 ft	150.00 ml/min
6/24/2021 10:41 AM	24:00	6.66 pH	58.18 °F	458.09 µS/cm	0.32 mg/L	116.34 NTU	-39.7 mV	8.90 ft	150.00 ml/min
6/24/2021 10:44 AM	27:00	6.66 pH	58.13 °F	458.54 µS/cm	0.31 mg/L	122.48 NTU	-39.9 mV	8.90 ft	150.00 ml/min
6/24/2021 10:47 AM	30:00	6.66 pH	58.29 °F	459.85 µS/cm	0.30 mg/L	128.43 NTU	-40.0 mV	8.90 ft	150.00 ml/min
6/24/2021 10:50 AM	32:06	6.64 pH	58.34 °F	462.54 µS/cm	0.30 mg/L	179.29 NTU	-40.8 mV	8.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-101	Sample Time: 10:52 Final DTW: 9.11 ft btoc Final RDO: 0.29 mg/L Ferrous Iron: 4.5 mg/L

Created using VuSitu from In-Situ, Inc.

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 9:01:34 AM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-104</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.26 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 60 F

## 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 %		
6/23/2021 9:01 AM	00:00	6.88 pH	61.41 °F	1,472.0 µS/cm	2.37 mg/L	301.79 NTU	58.6 mV	8.26 ft	150.00 ml/min
6/23/2021 9:04 AM	03:00	6.64 pH	59.85 °F	1,512.0 µS/cm	0.54 mg/L	132.24 NTU	27.5 mV	8.26 ft	150.00 ml/min
6/23/2021 9:07 AM	06:00	6.63 pH	59.29 °F	1,514.9 µS/cm	0.31 mg/L	119.11 NTU	9.5 mV	8.26 ft	150.00 ml/min
6/23/2021 9:10 AM	09:00	6.62 pH	58.95 °F	1,515.7 µS/cm	0.26 mg/L	113.03 NTU	-1.5 mV	8.26 ft	150.00 ml/min
6/23/2021 9:13 AM	12:00	6.62 pH	58.75 °F	1,512.9 µS/cm	0.23 mg/L	119.95 NTU	-9.9 mV	8.26 ft	150.00 ml/min
6/23/2021 9:16 AM	15:00	6.61 pH	58.60 °F	1,504.2 µS/cm	0.20 mg/L	110.57 NTU	-16.3 mV	8.26 ft	150.00 ml/min
6/23/2021 9:19 AM	18:00	6.59 pH	58.51 °F	1,520.9 µS/cm	0.20 mg/L	108.05 NTU	-20.3 mV	8.26 ft	150.00 ml/min
6/23/2021 9:22 AM	21:00	6.58 pH	58.51 °F	1,545.1 µS/cm	0.21 mg/L	101.53 NTU	-22.4 mV	8.26 ft	150.00 ml/min
6/23/2021 9:25 AM	24:00	6.57 pH	58.53 °F	1,564.6 µS/cm	0.20 mg/L	100.24 NTU	-23.8 mV	8.26 ft	150.00 ml/min
6/23/2021 9:28 AM	27:00	6.56 pH	58.40 °F	1,596.4 µS/cm	0.20 mg/L	93.77 NTU	-24.9 mV	8.26 ft	150.00 ml/min
6/23/2021 9:31 AM	30:00	6.56 pH	58.44 °F	1,611.8 µS/cm	0.19 mg/L	95.71 NTU	-25.8 mV	8.26 ft	150.00 ml/min
6/23/2021 9:34 AM	33:00	6.56 pH	58.35 °F	1,632.9 µS/cm	0.19 mg/L	94.46 NTU	-26.7 mV	8.26 ft	150.00 ml/min



6/23/2021 9:37 AM	36:00	6.56 pH	58.32 °F	1,657.9 µS/cm	0.18 mg/L	91.00 NTU	-27.7 mV	8.26 ft	150.00 ml/min
6/23/2021 9:40 AM	39:00	6.56 pH	58.35 °F	1,675.0 µS/cm	0.17 mg/L	93.40 NTU	-28.6 mV	8.26 ft	150.00 ml/min
6/23/2021 9:43 AM	42:00	6.55 pH	58.40 °F	1,697.8 µS/cm	0.17 mg/L	94.79 NTU	-29.4 mV	8.26 ft	150.00 ml/min
6/23/2021 9:46 AM	45:00	6.55 pH	58.41 °F	1,702.8 µS/cm	0.16 mg/L	92.67 NTU	-30.3 mV	8.26 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-104	Sample Time: 9:52 Final DTW: 8.58 ft btoc Final RDO: 0.16 mg/L Ferrous Iron:

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 8:49:38 AM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-126</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 3.7 ft</b> <b>Total Depth: 14.2 ft</b> <b>Initial Depth to Water: 5.59 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 3595 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.63 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Cloudy 70F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 8:49 AM	00:00	6.57 pH	52.37 °F	452.77 µS/cm	2.60 mg/L	68.5 mV	5.59 ft	150.00 ml/min
6/23/2021 8:51 AM	01:36	6.59 pH	52.37 °F	452.89 µS/cm	2.34 mg/L	105.6 mV	5.59 ft	150.00 ml/min
6/23/2021 8:53 AM	03:22	6.55 pH	52.30 °F	450.20 µS/cm	2.26 mg/L	112.9 mV	5.59 ft	150.00 ml/min
6/23/2021 8:56 AM	06:22	6.43 pH	52.33 °F	448.90 µS/cm	2.23 mg/L	148.5 mV	5.59 ft	150.00 ml/min
6/23/2021 8:59 AM	09:22	6.35 pH	52.17 °F	448.16 µS/cm	2.21 mg/L	153.7 mV	5.59 ft	150.00 ml/min
6/23/2021 9:02 AM	12:22	6.25 pH	52.24 °F	446.54 µS/cm	2.18 mg/L	165.3 mV	5.59 ft	150.00 ml/min
6/23/2021 9:04 AM	14:58	6.22 pH	52.24 °F	445.92 µS/cm	2.25 mg/L	168.8 mV	5.59 ft	150.00 ml/min
6/23/2021 9:07 AM	17:58	6.18 pH	52.30 °F	445.09 µS/cm	2.27 mg/L	167.0 mV	5.59 ft	150.00 ml/min
6/23/2021 9:10 AM	20:58	6.16 pH	52.36 °F	445.92 µS/cm	2.43 mg/L	152.0 mV	5.59 ft	150.00 ml/min
6/23/2021 9:13 AM	23:58	6.15 pH	52.32 °F	449.58 µS/cm	2.49 mg/L	150.6 mV	5.59 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-129	Sample Time: 9:18 Final DTW: 6.22 Final RDO: 2.49 mg/L Ferrous Iron: 1mg/L Water slightly cloudy

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# Low-Flow Test Report:

**Test Date / Time:** 6/22/2021 1:04:35 PM

**Project:** Edmonds Terminal 2Q21 (4)

**Operator Name:** Joseph Sepiol

<p><b>Location Name: MW-129R</b></p> <p><b>Well Diameter: 2 in</b></p> <p><b>Casing Type: PVC</b></p> <p><b>Screen Length: 10 ft</b></p> <p><b>Top of Screen: 3 ft</b></p> <p><b>Total Depth: 13 ft</b></p> <p><b>Initial Depth to Water: 5.41 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b></p> <p><b>Tubing Type: Polyethylene 0.170 x 1/4</b></p> <p><b>Pump Intake From TOC: 9 ft</b></p> <p><b>Estimated Total Volume Pumped: 6775 ml</b></p> <p><b>Flow Cell Volume: 130 ml</b></p> <p><b>Final Flow Rate: 150 ml/min</b></p> <p><b>Final Draw Down: 1.55 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b></p> <p><b>Serial Number: 457166</b></p>
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## Test Notes:

## Weather Conditions:

75F clear

## 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 %		
6/22/2021 1:04 PM	00:00	6.95 pH	68.20 °F	976.94 µS/cm	6.23 mg/L	3.91 NTU	-55.1 mV	5.41 ft	150.00 ml/min
6/22/2021 1:07 PM	03:00	6.81 pH	60.29 °F	1,356.2 µS/cm	1.06 mg/L	7.84 NTU	-49.0 mV	5.41 ft	150.00 ml/min
6/22/2021 1:10 PM	06:00	6.81 pH	60.48 °F	1,363.4 µS/cm	1.04 mg/L	10.25 NTU	-44.6 mV	5.41 ft	150.00 ml/min
6/22/2021 1:13 PM	09:00	6.88 pH	61.11 °F	1,353.8 µS/cm	0.42 mg/L	11.48 NTU	-36.5 mV	5.41 ft	150.00 ml/min
6/22/2021 1:16 PM	12:00	6.88 pH	59.95 °F	1,344.4 µS/cm	0.36 mg/L	11.64 NTU	-34.0 mV	5.41 ft	150.00 ml/min
6/22/2021 1:19 PM	15:00	6.87 pH	60.28 °F	1,344.7 µS/cm	0.27 mg/L	253.95 NTU	-31.6 mV	5.41 ft	150.00 ml/min
6/22/2021 1:22 PM	18:00	6.86 pH	60.10 °F	1,340.1 µS/cm	0.31 mg/L	12.85 NTU	-31.8 mV	5.41 ft	150.00 ml/min
6/22/2021 1:25 PM	21:00	6.84 pH	60.29 °F	1,334.4 µS/cm	0.28 mg/L	18.63 NTU	-38.7 mV	5.41 ft	150.00 ml/min
6/22/2021 1:28 PM	24:00	6.85 pH	60.51 °F	1,326.8 µS/cm	0.17 mg/L	19.64 NTU	-40.4 mV	5.41 ft	150.00 ml/min
6/22/2021 1:31 PM	27:00	6.84 pH	60.36 °F	1,319.6 µS/cm	0.29 mg/L	26.99 NTU	-44.8 mV	5.41 ft	150.00 ml/min
6/22/2021 1:34 PM	30:00	6.85 pH	60.20 °F	1,315.2 µS/cm	0.21 mg/L	38.92 NTU	-47.7 mV	5.41 ft	150.00 ml/min
6/22/2021 1:37 PM	33:00	6.84 pH	60.07 °F	1,317.9 µS/cm	0.27 mg/L	56.78 NTU	-49.7 mV	5.41 ft	150.00 ml/min

6/22/2021 1:40 PM	36:00	6.84 pH	60.16 °F	1,322.5 µS/cm	0.29 mg/L	77.87 NTU	-47.8 mV	5.41 ft	150.00 ml/min
6/22/2021 1:43 PM	39:00	6.84 pH	60.17 °F	1,319.0 µS/cm	0.17 mg/L	101.52 NTU	-48.1 mV	5.41 ft	150.00 ml/min
6/22/2021 1:46 PM	42:00	6.83 pH	59.46 °F	1,323.8 µS/cm	0.15 mg/L	132.95 NTU	-50.7 mV	5.41 ft	150.00 ml/min
6/22/2021 1:49 PM	45:10	6.87 pH	59.88 °F	1,329.8 µS/cm	0.17 mg/L	63.79 NTU	-50.6 mV	5.41 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-129R	<p>Sample Time: 1356  Final DTW: 6.96  Final RDO: 0.17 mg/L  Ferrous Iron: 5.0 mg/L  RDO and ORP did not stabilize after 45min</p>

# Low-Flow Test Report:

Test Date / Time: 6/22/2021 1:26:13 PM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-139R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4.4 ft</b> <b>Total Depth: 14.9 ft</b> <b>Initial Depth to Water: 7.13 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

Sunny, 74 F

## 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 %		
6/22/2021 1:26 PM	00:00	7.11 pH	70.27 °F	16,024 µS/cm	7.15 mg/L	2.65 NTU	74.1 mV	7.13 ft	150.00 ml/min
6/22/2021 1:29 PM	03:00	6.92 pH	66.00 °F	15,317 µS/cm	3.79 mg/L	4.43 NTU	69.5 mV	7.13 ft	150.00 ml/min
6/22/2021 1:32 PM	06:00	6.94 pH	65.05 °F	13,049 µS/cm	3.77 mg/L	3.86 NTU	63.6 mV	7.13 ft	150.00 ml/min
6/22/2021 1:35 PM	09:00	6.94 pH	64.84 °F	12,362 µS/cm	3.85 mg/L	3.17 NTU	62.8 mV	7.13 ft	150.00 ml/min
6/22/2021 1:38 PM	12:00	6.94 pH	65.08 °F	11,734 µS/cm	4.04 mg/L	2.95 NTU	62.1 mV	7.13 ft	150.00 ml/min
6/22/2021 1:41 PM	15:00	6.94 pH	64.91 °F	11,644 µS/cm	4.10 mg/L	2.89 NTU	62.5 mV	7.13 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-139R	Sample Time: 13:42 Final DTW: 7.13 ft btoc Final RDO: 4.10 mg/L Ferrous Iron: 0 mg/L





# Low-Flow Test Report:

Test Date / Time: 6/23/2021 11:15:07 AM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-143</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.6 ft</b> <b>Top of Screen: 3.5 ft</b> <b>Total Depth: 14.1 ft</b> <b>Initial Depth to Water: 5.42 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 3600 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.51 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Cloudy 75F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 11:15 AM	00:00	6.59 pH	56.38 °F	733.43 µS/cm	2.86 mg/L	-112.1 mV	5.42 ft	150.00 ml/min
6/23/2021 11:18 AM	03:00	6.47 pH	55.35 °F	601.69 µS/cm	0.27 mg/L	-130.6 mV	5.42 ft	150.00 ml/min
6/23/2021 11:21 AM	06:00	6.45 pH	55.00 °F	592.70 µS/cm	0.16 mg/L	-131.9 mV	5.42 ft	150.00 ml/min
6/23/2021 11:24 AM	09:00	6.42 pH	55.82 °F	596.89 µS/cm	0.17 mg/L	-139.7 mV	5.42 ft	150.00 ml/min
6/23/2021 11:27 AM	12:00	6.39 pH	55.82 °F	590.70 µS/cm	0.14 mg/L	-140.9 mV	5.42 ft	150.00 ml/min
6/23/2021 11:30 AM	15:00	6.36 pH	55.91 °F	585.96 µS/cm	0.13 mg/L	-148.9 mV	5.42 ft	150.00 ml/min
6/23/2021 11:33 AM	18:00	6.34 pH	55.84 °F	585.11 µS/cm	0.11 mg/L	-151.7 mV	5.42 ft	150.00 ml/min
6/23/2021 11:36 AM	21:00	6.32 pH	55.72 °F	584.71 µS/cm	0.10 mg/L	-156.3 mV	5.42 ft	150.00 ml/min
6/23/2021 11:39 AM	24:00	6.31 pH	55.59 °F	580.53 µS/cm	0.10 mg/L	-151.6 mV	5.42 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-143

Sample Time: 11:48  
Final DTW: 6.93 ft btoc  
Final RDO: 0.10 mg/L  
Ferrous Iron: 3.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/21/2021 12:24:33 PM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-502</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.31 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 6 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.11 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

Sunny, 75 F

## 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 %		
6/21/2021 12:24 PM	00:00	7.06 pH	66.78 °F	238.68 µS/cm	5.00 mg/L	12.22 NTU	129.2 mV	5.31 ft	150.00 ml/min
6/21/2021 12:27 PM	03:00	6.05 pH	60.21 °F	239.72 µS/cm	0.96 mg/L	0.62 NTU	146.2 mV	5.31 ft	150.00 ml/min
6/21/2021 12:30 PM	06:00	6.03 pH	59.12 °F	244.05 µS/cm	0.43 mg/L	0.39 NTU	148.1 mV	5.31 ft	150.00 ml/min
6/21/2021 12:33 PM	09:00	6.05 pH	58.55 °F	244.28 µS/cm	0.34 mg/L	0.52 NTU	150.1 mV	5.31 ft	150.00 ml/min
6/21/2021 12:36 PM	12:00	6.07 pH	58.00 °F	244.91 µS/cm	0.27 mg/L	1.63 NTU	148.4 mV	5.31 ft	150.00 ml/min
6/21/2021 12:39 PM	15:00	6.08 pH	57.71 °F	249.66 µS/cm	0.27 mg/L	0.56 NTU	143.5 mV	5.31 ft	150.00 ml/min
6/21/2021 12:42 PM	18:00	6.11 pH	57.92 °F	249.31 µS/cm	0.25 mg/L	0.75 NTU	153.6 mV	5.31 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-502

Sample Time: 12:42  
Final DTW: 5.42 ft  
Final RDO: 0.25 mg/L  
Ferrous Iron: 0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/21/2021 11:33:58 AM

Project: Edmonds Terminal 2Q21

Operator Name: MA

<b>Location Name: MW-503</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.25 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 m</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.13 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny, 80F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/21/2021 11:33 AM	00:00	6.39 pH	58.61 °F	380.37 µS/cm	0.42 mg/L	12.8 mV	5.25 m	150.00 ml/min
6/21/2021 11:36 AM	03:00	6.40 pH	58.56 °F	374.50 µS/cm	0.11 mg/L	7.0 mV	5.25 m	150.00 ml/min
6/21/2021 11:39 AM	06:00	6.39 pH	59.21 °F	376.17 µS/cm	0.11 mg/L	4.2 mV	5.25 m	150.00 ml/min
6/21/2021 11:42 AM	09:00	6.39 pH	59.12 °F	378.05 µS/cm	0.12 mg/L	-0.5 mV	5.25 m	150.00 ml/min
6/21/2021 11:45 AM	12:00	6.38 pH	58.92 °F	376.97 µS/cm	0.06 mg/L	-11.9 mV	5.25 m	150.00 ml/min
6/21/2021 11:48 AM	15:00	6.37 pH	58.84 °F	372.20 µS/cm	0.06 mg/L	-18.7 mV	5.25 m	150.00 ml/min
6/21/2021 11:51 AM	18:00	6.38 pH	58.86 °F	376.79 µS/cm	0.05 mg/L	-21.3 mV	5.25 m	150.00 ml/min
6/21/2021 11:54 AM	21:00	6.37 pH	58.71 °F	375.04 µS/cm	0.09 mg/L	-29.4 mV	5.25 m	150.00 ml/min
6/21/2021 11:57 AM	24:00	6.37 pH	58.57 °F	377.46 µS/cm	0.04 mg/L	-33.7 mV	5.25 m	150.00 ml/min
6/21/2021 12:00 PM	27:00	6.37 pH	59.02 °F	373.29 µS/cm	0.07 mg/L	-34.7 mV	5.25 m	150.00 ml/min
6/21/2021 12:03 PM	30:00	6.36 pH	59.01 °F	372.39 µS/cm	0.05 mg/L	-47.6 mV	5.25 m	150.00 ml/min
6/21/2021 12:06 PM	33:00	6.37 pH	58.98 °F	374.30 µS/cm	0.09 mg/L	-50.5 mV	5.25 m	150.00 ml/min

6/21/2021 12:09 PM	36:00	6.36 pH	58.96 °F	373.40 µS/cm	0.05 mg/L	-54.7 mV	5.25 m	150.00 ml/min
6/21/2021 12:12 PM	39:00	6.36 pH	58.80 °F	376.07 µS/cm	0.06 mg/L	-62.8 mV	5.25 m	150.00 ml/min
6/21/2021 12:15 PM	42:00	6.36 pH	58.99 °F	372.53 µS/cm	0.04 mg/L	-69.2 mV	5.25 m	150.00 ml/min
6/21/2021 12:18 PM	45:00	6.35 pH	58.66 °F	371.64 µS/cm	0.04 mg/L	-81.0 mV	5.25 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-503	Sample Time: 12:28 Final DTW: 5.38 ft btoc Final RDO: 0.04 mg/L Ferrous Iron: 1.5 mg/L RDO and ORP did not stabilize after 45 minutes
Dup-1	

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 8:47:44 AM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-504</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.56 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 6300 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny 70F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2021 8:47 AM	00:00	6.77 pH	61.82 °F	4,752.1 µS/cm	5.00 mg/L	54.5 mV	7.56 ft	150.00 ml/min
6/24/2021 8:50 AM	03:00	6.74 pH	59.77 °F	4,944.2 µS/cm	0.38 mg/L	27.1 mV	7.56 ft	150.00 ml/min
6/24/2021 8:53 AM	06:00	6.74 pH	59.76 °F	4,969.0 µS/cm	0.23 mg/L	19.9 mV	7.56 ft	150.00 ml/min
6/24/2021 8:56 AM	09:00	6.73 pH	60.12 °F	4,939.0 µS/cm	0.19 mg/L	17.0 mV	7.56 ft	150.00 ml/min
6/24/2021 8:59 AM	12:00	6.73 pH	60.19 °F	4,774.4 µS/cm	0.18 mg/L	17.6 mV	7.56 ft	150.00 ml/min
6/24/2021 9:02 AM	15:00	6.72 pH	60.27 °F	4,170.1 µS/cm	0.24 mg/L	25.9 mV	7.56 ft	150.00 ml/min
6/24/2021 9:05 AM	18:00	6.71 pH	60.38 °F	3,598.6 µS/cm	0.28 mg/L	36.4 mV	7.56 ft	150.00 ml/min
6/24/2021 9:08 AM	21:00	6.71 pH	60.64 °F	3,591.9 µS/cm	0.28 mg/L	41.9 mV	7.56 ft	150.00 ml/min
6/24/2021 9:11 AM	24:00	6.71 pH	60.56 °F	3,526.5 µS/cm	0.22 mg/L	41.7 mV	7.56 ft	150.00 ml/min
6/24/2021 9:14 AM	27:00	6.70 pH	60.60 °F	3,425.0 µS/cm	0.20 mg/L	41.9 mV	7.56 ft	150.00 ml/min
6/24/2021 9:17 AM	30:00	6.70 pH	60.72 °F	3,384.3 µS/cm	0.17 mg/L	43.1 mV	7.56 ft	150.00 ml/min
6/24/2021 9:20 AM	33:00	6.70 pH	60.72 °F	3,384.7 µS/cm	0.16 mg/L	40.8 mV	7.56 ft	150.00 ml/min



6/24/2021 9:23 AM	36:00	6.69 pH	60.68 °F	3,268.1 µS/cm	0.14 mg/L	45.6 mV	7.56 ft	150.00 ml/min
6/24/2021 9:26 AM	39:00	6.69 pH	60.72 °F	3,239.8 µS/cm	0.13 mg/L	44.8 mV	7.56 ft	150.00 ml/min
6/24/2021 9:29 AM	42:00	6.68 pH	60.71 °F	3,204.8 µS/cm	0.13 mg/L	44.6 mV	7.56 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-504	Sample Time: 9:38 Final DTW: 7.60 ft btoc Final RDO: 0.13 mg/L Ferrous Iron: 1.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 1:07:03 PM

Project: Edmonds Terminal 2Q21 (2)

Operator Name: MDA

<b>Location Name: MW-505</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.68 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 5852.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.09 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 1:07 PM	00:00	6.19 pH	62.59 °F	419.09 µS/cm	5.09 mg/L	15.2 mV	4.68 ft	150.00 ml/min
6/23/2021 1:10 PM	03:00	6.01 pH	61.80 °F	1,511.1 µS/cm	0.22 mg/L	-12.5 mV	4.68 ft	150.00 ml/min
6/23/2021 1:13 PM	06:00	6.03 pH	62.15 °F	2,209.3 µS/cm	0.28 mg/L	-21.2 mV	4.68 ft	150.00 ml/min
6/23/2021 1:16 PM	09:00	6.03 pH	61.96 °F	2,673.1 µS/cm	0.30 mg/L	-26.0 mV	4.68 ft	150.00 ml/min
6/23/2021 1:19 PM	12:00	6.04 pH	62.25 °F	2,960.8 µS/cm	0.24 mg/L	-30.0 mV	4.68 ft	150.00 ml/min
6/23/2021 1:22 PM	15:00	6.05 pH	62.33 °F	3,355.6 µS/cm	0.35 mg/L	-32.8 mV	4.68 ft	150.00 ml/min
6/23/2021 1:25 PM	18:00	6.06 pH	62.50 °F	3,609.6 µS/cm	0.18 mg/L	-34.6 mV	4.68 ft	150.00 ml/min
6/23/2021 1:28 PM	21:00	6.07 pH	62.53 °F	3,773.7 µS/cm	0.33 mg/L	-37.1 mV	4.68 ft	150.00 ml/min
6/23/2021 1:31 PM	24:00	6.08 pH	62.31 °F	4,041.8 µS/cm	0.23 mg/L	-38.2 mV	4.68 ft	150.00 ml/min
6/23/2021 1:34 PM	27:00	6.08 pH	62.51 °F	4,248.9 µS/cm	0.21 mg/L	-40.4 mV	4.68 ft	150.00 ml/min
6/23/2021 1:37 PM	30:01	6.09 pH	62.55 °F	4,110.1 µS/cm	0.30 mg/L	-41.0 mV	4.68 ft	150.00 ml/min
6/23/2021 1:40 PM	33:01	6.10 pH	62.59 °F	4,267.9 µS/cm	0.19 mg/L	-42.7 mV	4.68 ft	150.00 ml/min

6/23/2021 1:43 PM	36:01	6.11 pH	62.63 °F	4,378.8 µS/cm	0.22 mg/L	-43.3 mV	4.68 ft	150.00 ml/min
6/23/2021 1:46 PM	39:01	6.11 pH	62.47 °F	4,356.6 µS/cm	0.22 mg/L	-43.8 mV	4.68 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-505	Sample Time: 13:54 Final DTW: 4.77 ft Final RDO: 0.22 mg/L Ferrous Iron: 3.5 mg/L

# Low-Flow Test Report:

**Test Date / Time:** 6/23/2021 12:42:50 PM

**Project:** Edmonds Terminal 2Q21 (7)

**Operator Name:** Joseph Sepiol

<p><b>Location Name: MW-506</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 6.7 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 9 ft</b>  <b>Estimated Total Volume Pumped: 7650 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.04 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 457166</b></p>
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## Test Notes:

## Weather Conditions:

75F clear

## 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 %		
6/23/2021 12:42 PM	00:00	6.64 pH	66.14 °F	6,809.0 µS/cm	2.69 mg/L	107.10 NTU	-34.8 mV	6.70 ft	150.00 ml/min
6/23/2021 12:45 PM	03:00	6.68 pH	63.36 °F	6,642.8 µS/cm	0.70 mg/L	192.94 NTU	-45.2 mV	6.70 ft	150.00 ml/min
6/23/2021 12:48 PM	06:00	6.68 pH	63.12 °F	6,241.6 µS/cm	0.52 mg/L	163.05 NTU	-54.8 mV	6.70 ft	150.00 ml/min
6/23/2021 12:51 PM	09:00	6.68 pH	62.62 °F	6,186.6 µS/cm	0.46 mg/L	183.73 NTU	-59.2 mV	6.70 ft	150.00 ml/min
6/23/2021 12:54 PM	12:00	6.69 pH	62.55 °F	5,986.0 µS/cm	0.41 mg/L	149.84 NTU	-64.9 mV	6.70 ft	150.00 ml/min
6/23/2021 12:57 PM	15:00	6.69 pH	62.30 °F	5,924.1 µS/cm	0.38 mg/L	167.03 NTU	-68.6 mV	6.70 ft	150.00 ml/min
6/23/2021 1:00 PM	18:00	6.69 pH	62.41 °F	5,829.0 µS/cm	0.35 mg/L	127.64 NTU	-71.7 mV	6.70 ft	150.00 ml/min
6/23/2021 1:03 PM	21:00	6.69 pH	62.38 °F	5,656.2 µS/cm	0.34 mg/L	130.35 NTU	-74.5 mV	6.70 ft	150.00 ml/min
6/23/2021 1:06 PM	24:00	6.70 pH	62.26 °F	5,554.4 µS/cm	0.33 mg/L	122.96 NTU	-76.3 mV	6.70 ft	150.00 ml/min
6/23/2021 1:09 PM	27:00	6.70 pH	62.21 °F	5,455.8 µS/cm	0.31 mg/L	98.47 NTU	-77.8 mV	6.70 ft	150.00 ml/min
6/23/2021 1:12 PM	30:00	6.70 pH	62.32 °F	5,392.1 µS/cm	0.30 mg/L	109.42 NTU	-78.9 mV	6.70 ft	150.00 ml/min
6/23/2021 1:15 PM	33:00	6.70 pH	62.34 °F	5,351.0 µS/cm	0.28 mg/L	77.54 NTU	-79.9 mV	6.70 ft	150.00 ml/min

6/23/2021 1:18 PM	36:00	6.71 pH	62.21 °F	5,306.6 µS/cm	0.27 mg/L	77.16 NTU	-80.8 mV	6.70 ft	150.00 ml/min
6/23/2021 1:21 PM	39:00	6.71 pH	62.29 °F	5,290.7 µS/cm	0.27 mg/L	63.62 NTU	-81.8 mV	6.70 ft	150.00 ml/min
6/23/2021 1:24 PM	42:00	6.72 pH	62.15 °F	5,257.7 µS/cm	0.26 mg/L	59.84 NTU	-82.5 mV	6.70 ft	150.00 ml/min
6/23/2021 1:27 PM	45:00	6.72 pH	62.37 °F	5,246.4 µS/cm	0.25 mg/L	51.38 NTU	-83.4 mV	6.70 ft	150.00 ml/min
6/23/2021 1:30 PM	48:00	6.72 pH	62.33 °F	5,247.5 µS/cm	0.23 mg/L	48.47 NTU	-84.2 mV	6.70 ft	150.00 ml/min
6/23/2021 1:33 PM	51:00	6.73 pH	62.34 °F	5,194.7 µS/cm	0.22 mg/L	44.70 NTU	-85.1 mV	6.70 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-506	Sample Time: 1336 Final DTW: 6.74 ft Final DRO: 0.22 Ferrous Iron: 4.0 ORP did not stabilize MW-506-MS and MW-506-MSD collected

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 10:07:30 AM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-507</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.81 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4950 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny 80F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2021 10:07 AM	00:00	6.70 pH	68.00 °F	957.23 µS/cm	3.81 mg/L	194.9 mV	6.81 ft	150.00 ml/min
6/24/2021 10:10 AM	03:00	6.62 pH	63.04 °F	951.08 µS/cm	0.39 mg/L	154.9 mV	6.81 ft	150.00 ml/min
6/24/2021 10:13 AM	06:00	6.61 pH	62.49 °F	953.80 µS/cm	0.27 mg/L	138.3 mV	6.81 ft	150.00 ml/min
6/24/2021 10:16 AM	09:00	6.62 pH	62.30 °F	951.71 µS/cm	0.20 mg/L	124.2 mV	6.81 ft	150.00 ml/min
6/24/2021 10:19 AM	12:00	6.62 pH	62.11 °F	950.11 µS/cm	0.16 mg/L	128.5 mV	6.81 ft	150.00 ml/min
6/24/2021 10:22 AM	15:00	6.62 pH	61.88 °F	945.92 µS/cm	0.18 mg/L	121.7 mV	6.81 ft	150.00 ml/min
6/24/2021 10:25 AM	18:00	6.62 pH	61.67 °F	942.48 µS/cm	0.14 mg/L	124.2 mV	6.81 ft	150.00 ml/min
6/24/2021 10:28 AM	21:00	6.62 pH	61.54 °F	937.99 µS/cm	0.16 mg/L	116.2 mV	6.81 ft	150.00 ml/min
6/24/2021 10:31 AM	24:00	6.62 pH	61.56 °F	933.96 µS/cm	0.13 mg/L	122.2 mV	6.81 ft	150.00 ml/min
6/24/2021 10:34 AM	27:00	6.62 pH	61.55 °F	937.55 µS/cm	0.11 mg/L	111.8 mV	6.81 ft	150.00 ml/min
6/24/2021 10:37 AM	30:00	6.62 pH	61.67 °F	929.52 µS/cm	0.10 mg/L	120.8 mV	6.81 ft	150.00 ml/min
6/24/2021 10:40 AM	33:00	6.62 pH	61.65 °F	930.05 µS/cm	0.12 mg/L	115.1 mV	6.81 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-507	Sample Time: 10:58 Final DTW: 7.21 ft btoc Final RDO: 0.12 mg/L Ferrous Iron: 0.0 mg/L



# Low-Flow Test Report:

Test Date / Time: 6/21/2021 1:19:32 PM

Project: Edmonds Terminal 2Q21 (2)

Operator Name: MA

<b>Location Name: MW-509</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.59 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 m</b> <b>Estimated Total Volume Pumped: 1350 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny, 80Fh

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/21/2021 1:19 PM	00:00	6.52 pH	69.32 °F	27,634 µS/cm	4.10 mg/L	191.8 mV	3.59 ft	150.00 ml/min
6/21/2021 1:22 PM	03:00	6.63 pH	63.42 °F	28,743 µS/cm	2.58 mg/L	172.0 mV	3.59 ft	150.00 ml/min
6/21/2021 1:25 PM	06:00	6.65 pH	63.45 °F	28,866 µS/cm	2.62 mg/L	159.5 mV	3.59 ft	150.00 ml/min
6/21/2021 1:28 PM	09:00	6.66 pH	64.12 °F	28,633 µS/cm	2.59 mg/L	151.4 mV	3.59 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-509	Sample time: 13:34 Final DTW: 3.60 ft btoc Final RDO: 2.59 mg/L Ferrous Iron: 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/21/2021 10:47:33 AM

Project: Edmonds Terminal 2Q21

Operator Name: Joseph Sepiol

<b>Location Name: MW-511</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.01 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 12 ft</b> <b>Estimated Total Volume Pumped: 3612.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

75F clear

## 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 %		
6/21/2021 10:47 AM	00:00	6.38 pH	70.64 °F	155.35 µS/cm	5.83 mg/L	55.20 NTU	192.6 mV	8.01 m	150.00 ml/min
6/21/2021 10:48 AM	00:29	6.27 pH	68.40 °F	165.09 µS/cm	4.88 mg/L	13.10 NTU	189.7 mV	8.01 m	150.00 ml/min
6/21/2021 10:51 AM	03:29	6.09 pH	62.52 °F	169.75 µS/cm	3.08 mg/L	0.13 NTU	194.1 mV	8.01 m	150.00 ml/min
6/21/2021 10:53 AM	06:05	6.10 pH	60.52 °F	171.74 µS/cm	3.09 mg/L	0.00 NTU	193.2 mV	8.01 m	150.00 ml/min
6/21/2021 10:56 AM	09:05	6.11 pH	59.47 °F	169.31 µS/cm	3.23 mg/L	0.00 NTU	191.2 mV	8.01 m	150.00 ml/min
6/21/2021 10:59 AM	12:05	6.12 pH	58.66 °F	168.23 µS/cm	3.37 mg/L	0.00 NTU	190.3 mV	8.01 m	150.00 ml/min
6/21/2021 11:02 AM	15:05	6.13 pH	58.08 °F	164.49 µS/cm	3.29 mg/L	0.12 NTU	189.5 mV	8.01 m	150.00 ml/min
6/21/2021 11:05 AM	18:05	6.13 pH	57.79 °F	162.49 µS/cm	3.03 mg/L	0.00 NTU	188.6 mV	8.01 m	150.00 ml/min
6/21/2021 11:08 AM	21:05	6.14 pH	57.46 °F	169.63 µS/cm	2.80 mg/L	0.13 NTU	187.5 mV	8.01 m	150.00 ml/min
6/21/2021 11:11 AM	24:05	6.14 pH	57.41 °F	171.18 µS/cm	2.68 mg/L	0.00 NTU	186.7 mV	8.01 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-511	Sample Time: 11:16 Final DTW: 8.02 ft Final DRO: 2.68 Ferrous Iron: 0

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 8:43:28 AM

Project: Edmonds Terminal 2Q21 (8)

Operator Name: Joseph Sepiol

<b>Location Name: MW-512</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.52 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 7212.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

62F clear

## 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 %		
6/24/2021 8:43 AM	00:00	6.62 pH	61.16 °F	2,536.8 µS/cm	2.08 mg/L	0.50 NTU	-44.3 mV	6.52 ft	150.00 ml/min
6/24/2021 8:46 AM	03:00	6.71 pH	61.20 °F	2,311.8 µS/cm	0.39 mg/L	0.17 NTU	-74.9 mV	6.52 ft	150.00 ml/min
6/24/2021 8:49 AM	06:00	6.75 pH	61.40 °F	2,223.7 µS/cm	0.33 mg/L	0.00 NTU	-83.3 mV	6.52 ft	150.00 ml/min
6/24/2021 8:52 AM	09:00	6.75 pH	61.56 °F	2,172.5 µS/cm	0.40 mg/L	0.00 NTU	-85.4 mV	6.52 ft	150.00 ml/min
6/24/2021 8:55 AM	12:00	6.73 pH	61.77 °F	2,140.5 µS/cm	0.20 mg/L	0.00 NTU	-88.0 mV	6.52 ft	150.00 ml/min
6/24/2021 8:58 AM	15:00	6.68 pH	61.98 °F	2,066.8 µS/cm	0.19 mg/L	0.20 NTU	-85.4 mV	6.52 ft	150.00 ml/min
6/24/2021 9:01 AM	18:00	6.58 pH	62.13 °F	1,637.3 µS/cm	0.13 mg/L	0.18 NTU	-76.4 mV	6.52 ft	150.00 ml/min
6/24/2021 9:04 AM	21:00	6.30 pH	62.50 °F	1,056.9 µS/cm	0.20 mg/L	0.30 NTU	-53.3 mV	6.52 ft	150.00 ml/min
6/24/2021 9:07 AM	24:00	6.20 pH	62.41 °F	827.01 µS/cm	0.15 mg/L	0.11 NTU	-42.3 mV	6.52 ft	150.00 ml/min
6/24/2021 9:10 AM	27:00	6.17 pH	62.52 °F	763.49 µS/cm	0.20 mg/L	0.00 NTU	-38.0 mV	6.52 ft	150.00 ml/min
6/24/2021 9:13 AM	30:05	6.16 pH	62.57 °F	749.59 µS/cm	0.29 mg/L	0.00 NTU	-35.6 mV	6.52 ft	150.00 ml/min
6/24/2021 9:16 AM	33:05	6.18 pH	62.46 °F	742.31 µS/cm	0.21 mg/L	0.00 NTU	-36.3 mV	6.52 ft	150.00 ml/min

6/24/2021 9:19 AM	36:05	6.19 pH	62.55 °F	732.40 µS/cm	0.18 mg/L	0.00 NTU	-35.6 mV	6.52 ft	150.00 ml/min
6/24/2021 9:22 AM	39:05	6.19 pH	62.59 °F	708.69 µS/cm	0.18 mg/L	0.00 NTU	-35.1 mV	6.52 ft	150.00 ml/min
6/24/2021 9:25 AM	42:05	6.19 pH	62.73 °F	693.84 µS/cm	0.16 mg/L	0.00 NTU	-35.3 mV	6.52 ft	150.00 ml/min
6/24/2021 9:28 AM	45:05	6.19 pH	63.18 °F	691.86 µS/cm	0.17 mg/L	0.00 NTU	-34.8 mV	6.52 ft	150.00 ml/min
6/24/2021 9:31 AM	48:05	6.20 pH	64.38 °F	701.52 µS/cm	0.28 mg/L	0.00 NTU	-34.0 mV	6.52 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-512	Sample Time: 0936 Final DTW: 6.43 ft Final DRO: 0.17 mg/L Ferrous Iron: 1.5 mg/L ORP did not stabilize

# Low-Flow Test Report:

**Test Date / Time:** 6/21/2021 12:42:12 PM

**Project:** Edmonds Terminal 2Q21 (2)

**Operator Name:** Joseph Sepiol

<p><b>Location Name: MW-513</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 4.3 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 12 ft</b>  <b>Estimated Total Volume Pumped: 6750 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.15 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 467545</b></p>
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**Test Notes:**

PID 0.0ppm

**Weather Conditions:**

75F clear

**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 %		
6/21/2021 12:42 PM	00:00	6.09 pH	78.65 °F	14,064 µS/cm	3.97 mg/L	8.09 NTU	97.7 mV	4.30 ft	150.00 ml/min
6/21/2021 12:45 PM	03:00	6.39 pH	66.85 °F	13,112 µS/cm	0.21 mg/L	3.08 NTU	33.8 mV	4.30 ft	150.00 ml/min
6/21/2021 12:48 PM	06:00	6.44 pH	65.28 °F	12,825 µS/cm	0.13 mg/L	0.07 NTU	13.9 mV	4.30 ft	150.00 ml/min
6/21/2021 12:51 PM	09:00	6.71 pH	64.59 °F	4,301.9 µS/cm	0.22 mg/L	3.46 NTU	-6.6 mV	4.30 ft	150.00 ml/min
6/21/2021 12:54 PM	12:00	6.72 pH	64.39 °F	3,745.5 µS/cm	0.58 mg/L	2.59 NTU	-6.4 mV	4.30 ft	150.00 ml/min
6/21/2021 12:57 PM	15:00	6.70 pH	64.39 °F	3,836.1 µS/cm	0.84 mg/L	1.38 NTU	-5.1 mV	4.30 ft	150.00 ml/min
6/21/2021 1:00 PM	18:00	6.69 pH	64.37 °F	3,722.7 µS/cm	1.13 mg/L	0.14 NTU	-2.5 mV	4.30 ft	150.00 ml/min
6/21/2021 1:03 PM	21:00	6.70 pH	64.33 °F	3,792.9 µS/cm	1.33 mg/L	0.25 NTU	-3.1 mV	4.30 ft	150.00 ml/min
6/21/2021 1:06 PM	24:00	6.67 pH	64.73 °F	4,499.8 µS/cm	1.36 mg/L	0.10 NTU	-1.1 mV	4.30 ft	150.00 ml/min
6/21/2021 1:09 PM	27:00	6.67 pH	64.75 °F	4,465.6 µS/cm	1.42 mg/L	0.07 NTU	-2.9 mV	4.30 ft	150.00 ml/min
6/21/2021 1:12 PM	30:00	6.66 pH	64.63 °F	4,552.7 µS/cm	1.48 mg/L	0.28 NTU	-3.7 mV	4.30 ft	150.00 ml/min
6/21/2021 1:15 PM	33:00	6.67 pH	64.46 °F	4,510.3 µS/cm	1.55 mg/L	0.26 NTU	-4.6 mV	4.30 ft	150.00 ml/min

6/21/2021 1:18 PM	36:00	6.67 pH	64.47 °F	4,498.2 µS/cm	1.61 mg/L	0.21 NTU	-4.6 mV	4.30 ft	150.00 ml/min
6/21/2021 1:21 PM	39:00	6.68 pH	64.41 °F	4,439.2 µS/cm	1.68 mg/L	0.23 NTU	-5.3 mV	4.30 ft	150.00 ml/min
6/21/2021 1:24 PM	42:00	6.68 pH	64.38 °F	4,438.7 µS/cm	1.76 mg/L	0.20 NTU	-6.1 mV	4.30 ft	150.00 ml/min
6/21/2021 1:27 PM	45:00	6.67 pH	64.36 °F	4,565.0 µS/cm	1.81 mg/L	0.19 NTU	-6.0 mV	4.30 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-513	Sample Time: 1326 Final DTW: 4.45 ft Final RDO: 1.81 mg/L Ferrous Iron: 5.0 ORP did not stabilize



# Low-Flow Test Report:

Test Date / Time: 6/24/2021 10:26:34 AM

Project: Edmonds Terminal 2Q21 (9)

Operator Name: Joseph Sepiol

<b>Location Name: MW-514</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.68 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 7207.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

58F clear

## 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 %		
6/24/2021 10:26 AM	00:00	6.18 pH	67.13 °F	1,114.5 µS/cm	5.14 mg/L	181.12 NTU	28.2 mV	4.68 ft	150.00 ml/min
6/24/2021 10:29 AM	03:00	5.98 pH	61.75 °F	1,353.3 µS/cm	0.57 mg/L	48.14 NTU	25.9 mV	4.68 ft	150.00 ml/min
6/24/2021 10:32 AM	06:00	5.99 pH	61.28 °F	1,358.3 µS/cm	0.18 mg/L	71.96 NTU	18.1 mV	4.68 ft	150.00 ml/min
6/24/2021 10:35 AM	09:00	5.98 pH	61.42 °F	1,359.2 µS/cm	0.12 mg/L	18.36 NTU	14.7 mV	4.68 ft	150.00 ml/min
6/24/2021 10:38 AM	12:00	5.98 pH	61.41 °F	1,381.6 µS/cm	0.18 mg/L	13.93 NTU	9.7 mV	4.68 ft	150.00 ml/min
6/24/2021 10:41 AM	15:03	5.97 pH	61.35 °F	1,421.5 µS/cm	0.14 mg/L	6.41 NTU	7.4 mV	4.68 ft	150.00 ml/min
6/24/2021 10:44 AM	18:03	5.98 pH	61.30 °F	1,464.4 µS/cm	0.15 mg/L	7.87 NTU	4.8 mV	4.68 ft	150.00 ml/min
6/24/2021 10:47 AM	21:03	5.98 pH	61.48 °F	1,513.0 µS/cm	0.15 mg/L	6.19 NTU	2.0 mV	4.68 ft	150.00 ml/min
6/24/2021 10:50 AM	24:03	5.98 pH	61.65 °F	1,544.5 µS/cm	0.10 mg/L	3.94 NTU	0.4 mV	4.68 ft	150.00 ml/min
6/24/2021 10:53 AM	27:03	5.98 pH	61.49 °F	1,580.1 µS/cm	0.11 mg/L	1.70 NTU	-1.3 mV	4.68 ft	150.00 ml/min
6/24/2021 10:56 AM	30:03	5.97 pH	61.29 °F	1,598.2 µS/cm	0.11 mg/L	2.17 NTU	-2.4 mV	4.68 ft	150.00 ml/min
6/24/2021 10:59 AM	33:03	5.98 pH	62.05 °F	1,611.3 µS/cm	0.08 mg/L	2.79 NTU	-3.9 mV	4.68 ft	150.00 ml/min

6/24/2021 11:02 AM	36:03	5.98 pH	61.79 °F	1,609.5 µS/cm	0.10 mg/L	1.67 NTU	-5.7 mV	4.68 ft	150.00 ml/min
6/24/2021 11:05 AM	39:03	5.98 pH	61.94 °F	1,623.8 µS/cm	0.12 mg/L	0.98 NTU	-6.5 mV	4.68 ft	150.00 ml/min
6/24/2021 11:08 AM	42:03	5.99 pH	61.94 °F	1,615.9 µS/cm	0.09 mg/L	1.75 NTU	-7.7 mV	4.68 ft	150.00 ml/min
6/24/2021 11:11 AM	45:03	5.98 pH	62.01 °F	1,633.6 µS/cm	0.09 mg/L	0.41 NTU	-8.3 mV	4.68 ft	150.00 ml/min
6/24/2021 11:14 AM	48:03	6.39 pH	66.70 °F	0.06 µS/cm	9.50 mg/L	0.04 NTU	-10.9 mV	4.68 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-514	<p>Sample Time: 1116  Final DTW: 4.70  Final DRO: 0.09mg/L  Ferrous Iron: 2.0 mg/L  ORP and Redox did not stabilize after 45min  MW-514-MS and MW-514-MSD collected</p> <p>***Final parameter auto logged in app after aquatroll had been disconnected. Final parameter is not reflective of low flow purge.</p>

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 8:45:57 AM

Project: Edmonds Terminal 2Q21 (3)

Operator Name: MDA

<b>Location Name: MW-515</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.87 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
6/24/2021 8:45 AM	00:00	7.08 pH	63.55 °F	2,731.4 µS/cm	5.41 mg/L	72.6 mV	4.87 ft	150.00 ml/min
6/24/2021 8:48 AM	03:00	6.68 pH	61.85 °F	2,363.6 µS/cm	0.35 mg/L	52.3 mV	4.87 ft	150.00 ml/min
6/24/2021 8:51 AM	06:00	6.67 pH	61.94 °F	2,186.1 µS/cm	0.28 mg/L	58.5 mV	4.87 ft	150.00 ml/min
6/24/2021 8:54 AM	09:00	6.67 pH	61.98 °F	2,119.2 µS/cm	0.25 mg/L	57.5 mV	4.87 ft	150.00 ml/min
6/24/2021 8:57 AM	12:00	6.67 pH	61.95 °F	2,077.7 µS/cm	0.22 mg/L	56.7 mV	4.87 ft	150.00 ml/min
6/24/2021 9:00 AM	15:00	6.67 pH	61.88 °F	2,064.9 µS/cm	0.21 mg/L	57.9 mV	4.87 ft	150.00 ml/min
6/24/2021 9:03 AM	18:00	6.68 pH	61.91 °F	2,062.4 µS/cm	0.20 mg/L	59.3 mV	4.87 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-515	Sample Time: 09:04 Final DTW: 4.89 ft btoc Final RDO: 0.20 mg/L Ferrous Iron: 0.0 mg/L



# Low-Flow Test Report:

Test Date / Time: 6/24/2021 9:51:53 AM

Project: Edmonds Terminal 2Q21 (7)

Operator Name: MDA

<b>Location Name: MW-516</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.54 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

Sunny, 65 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2021 9:51 AM	00:00	7.12 pH	65.24 °F	5.65 µS/cm	8.11 mg/L	117.3 mV	4.54 ft	150.00 ml/min
6/24/2021 9:54 AM	03:00	6.68 pH	64.20 °F	1,138.4 µS/cm	0.43 mg/L	120.3 mV	4.54 ft	150.00 ml/min
6/24/2021 9:57 AM	06:00	6.66 pH	64.35 °F	1,137.5 µS/cm	0.30 mg/L	119.6 mV	4.54 ft	150.00 ml/min
6/24/2021 10:00 AM	09:00	6.66 pH	64.32 °F	1,135.7 µS/cm	0.25 mg/L	120.5 mV	4.54 ft	150.00 ml/min
6/24/2021 10:03 AM	12:00	6.67 pH	64.39 °F	1,139.4 µS/cm	0.24 mg/L	115.1 mV	4.54 ft	150.00 ml/min
6/24/2021 10:06 AM	15:00	6.65 pH	64.44 °F	1,145.7 µS/cm	0.24 mg/L	108.9 mV	4.54 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-516	Sample Time: 10:14 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: 6/24/2021 11:00:04 AM

Project: Edmonds Terminal 2Q21 (4)

Operator Name: MDA

<b>Location Name: MW-517</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.29 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1350 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/24/2021 11:00 AM	00:00	6.86 pH	68.37 °F	549.86 µS/cm	6.24 mg/L	149.4 mV	5.29 ft	150.00 ml/min
6/24/2021 11:03 AM	03:00	6.74 pH	67.00 °F	522.03 µS/cm	2.93 mg/L	147.3 mV	5.29 ft	150.00 ml/min
6/24/2021 11:06 AM	06:00	6.73 pH	66.76 °F	498.29 µS/cm	2.85 mg/L	152.6 mV	5.29 ft	150.00 ml/min
6/24/2021 11:09 AM	09:00	6.74 pH	67.08 °F	505.14 µS/cm	2.87 mg/L	150.8 mV	5.29 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-517	Sample Time: 11:14 Final DTW: 5.30 ft btoc Final RDO: 2.87 mg/L Ferrous Iron: 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 8:40:20 AM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-518</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 12.5 ft</b> <b>Initial Depth to Water: 5.14 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

Sunny, 68

## 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 %		
6/24/2021 8:40 AM	00:00	7.27 pH	61.13 °F	429.82 µS/cm	4.83 mg/L	6.48 NTU	19.8 mV	5.14 ft	150.00 ml/min
6/24/2021 8:43 AM	03:00	7.26 pH	61.29 °F	435.55 µS/cm	2.32 mg/L	4.40 NTU	-51.7 mV	5.14 ft	150.00 ml/min
6/24/2021 8:46 AM	06:00	7.27 pH	60.65 °F	437.67 µS/cm	1.58 mg/L	5.06 NTU	-46.8 mV	5.14 ft	150.00 ml/min
6/24/2021 8:49 AM	09:00	7.27 pH	59.49 °F	437.30 µS/cm	0.56 mg/L	5.72 NTU	-49.7 mV	5.14 ft	150.00 ml/min
6/24/2021 8:52 AM	12:00	7.22 pH	59.20 °F	437.42 µS/cm	0.42 mg/L	6.77 NTU	-60.0 mV	5.14 ft	150.00 ml/min
6/24/2021 8:55 AM	15:00	7.15 pH	59.20 °F	436.93 µS/cm	0.33 mg/L	7.91 NTU	-67.1 mV	5.14 ft	150.00 ml/min
6/24/2021 8:58 AM	18:00	7.08 pH	59.09 °F	435.97 µS/cm	0.30 mg/L	8.05 NTU	-69.2 mV	5.14 ft	150.00 ml/min
6/24/2021 9:01 AM	21:00	7.05 pH	59.05 °F	435.47 µS/cm	0.28 mg/L	9.66 NTU	-70.5 mV	5.14 ft	150.00 ml/min
6/24/2021 9:04 AM	24:00	7.01 pH	59.09 °F	435.54 µS/cm	0.26 mg/L	11.19 NTU	-69.5 mV	5.14 ft	150.00 ml/min
6/24/2021 9:07 AM	27:00	6.99 pH	59.03 °F	434.13 µS/cm	0.24 mg/L	13.30 NTU	-68.8 mV	5.14 ft	150.00 ml/min
6/24/2021 9:10 AM	30:00	6.97 pH	58.97 °F	433.43 µS/cm	0.24 mg/L	15.05 NTU	-68.4 mV	5.14 ft	150.00 ml/min
6/24/2021 9:13 AM	33:00	6.96 pH	58.90 °F	433.25 µS/cm	0.23 mg/L	17.71 NTU	-67.4 mV	5.14 ft	150.00 ml/min



6/24/2021 9:16 AM	36:00	6.94 pH	58.92 °F	433.32 µS/cm	0.22 mg/L	19.72 NTU	-66.1 mV	5.14 ft	150.00 ml/min
6/24/2021 9:19 AM	39:00	6.94 pH	58.94 °F	433.48 µS/cm	0.21 mg/L	22.07 NTU	-65.2 mV	5.14 ft	150.00 ml/min
6/24/2021 9:22 AM	42:00	6.94 pH	59.13 °F	433.36 µS/cm	0.21 mg/L	24.99 NTU	-64.3 mV	5.14 ft	150.00 ml/min
6/24/2021 9:25 AM	45:00	6.93 pH	59.03 °F	432.61 µS/cm	0.21 mg/L	28.01 NTU	-64.7 mV	5.14 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-518	Sample Time: 9:22 Final DTW: 7.42 ft btoc Final RDO: 0.20 mg/L Ferrous Iron: 1.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 9:09:38 AM

Project: Edmonds Terminal 2Q21 (5)

Operator Name: MDA

<b>Location Name: MW-519</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.06 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.03 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 65 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 9:09 AM	00:00	6.29 pH	58.71 °F	1,392.5 µS/cm	1.15 mg/L	-44.9 mV	7.06 ft	150.00 ml/min
6/23/2021 9:12 AM	03:00	6.21 pH	59.04 °F	1,184.9 µS/cm	0.30 mg/L	-22.7 mV	7.06 ft	150.00 ml/min
6/23/2021 9:15 AM	06:00	6.19 pH	59.62 °F	1,017.4 µS/cm	0.34 mg/L	-21.8 mV	7.06 ft	150.00 ml/min
6/23/2021 9:18 AM	09:00	6.17 pH	59.51 °F	931.16 µS/cm	0.78 mg/L	-23.7 mV	7.06 ft	150.00 ml/min
6/23/2021 9:21 AM	12:00	6.18 pH	59.61 °F	889.99 µS/cm	0.59 mg/L	-26.7 mV	7.06 ft	150.00 ml/min
6/23/2021 9:24 AM	15:00	6.20 pH	59.74 °F	865.90 µS/cm	0.27 mg/L	-26.4 mV	7.06 ft	150.00 ml/min
6/23/2021 9:27 AM	18:00	6.14 pH	59.86 °F	851.10 µS/cm	0.38 mg/L	-29.1 mV	7.06 ft	150.00 ml/min
6/23/2021 9:30 AM	21:00	6.14 pH	60.09 °F	843.65 µS/cm	0.27 mg/L	-28.7 mV	7.06 ft	150.00 ml/min
6/23/2021 9:33 AM	24:00	6.14 pH	60.22 °F	840.20 µS/cm	0.22 mg/L	-26.0 mV	7.06 ft	150.00 ml/min
6/23/2021 9:36 AM	27:00	6.14 pH	60.26 °F	831.46 µS/cm	0.21 mg/L	-25.1 mV	7.06 ft	150.00 ml/min
6/23/2021 9:39 AM	30:00	6.13 pH	60.43 °F	824.35 µS/cm	0.23 mg/L	-21.1 mV	7.06 ft	150.00 ml/min
6/23/2021 9:42 AM	33:00	6.14 pH	60.49 °F	808.10 µS/cm	0.21 mg/L	-18.2 mV	7.06 ft	150.00 ml/min

6/23/2021 9:45 AM	36:00	6.14 pH	60.52 °F	790.79 µS/cm	0.27 mg/L	-13.2 mV	7.06 ft	150.00 ml/min
6/23/2021 9:48 AM	39:00	6.14 pH	60.60 °F	766.15 µS/cm	0.33 mg/L	-8.1 mV	7.06 ft	150.00 ml/min
6/23/2021 9:51 AM	42:00	6.14 pH	60.78 °F	749.98 µS/cm	0.35 mg/L	-5.0 mV	7.06 ft	150.00 ml/min
6/23/2021 9:54 AM	45:00	6.13 pH	60.82 °F	743.23 µS/cm	0.35 mg/L	-1.4 mV	7.06 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-519	Sample Time: 09:54 Final DTW: 7.09 ft Final RDO: 0.35 mg/L Ferrous Iron: 3.5 mg/L Parameters not Stabilized: ORP

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 10:35:48 AM

Project: Edmonds Terminal 2Q21 (6)

Operator Name: MDA

<b>Location Name: MW-520</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.77 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4950 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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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 %		
6/23/2021 10:35 AM	00:00	6.04 pH	62.59 °F	2,556.5 µS/cm	3.80 mg/L	98.7 mV	7.77 ft	150.00 ml/min
6/23/2021 10:38 AM	03:00	6.00 pH	62.33 °F	2,314.8 µS/cm	0.29 mg/L	88.9 mV	7.77 ft	150.00 ml/min
6/23/2021 10:41 AM	06:00	6.00 pH	62.50 °F	2,350.0 µS/cm	0.25 mg/L	79.9 mV	7.77 ft	150.00 ml/min
6/23/2021 10:44 AM	09:00	6.04 pH	63.28 °F	1,728.0 µS/cm	0.27 mg/L	74.0 mV	7.77 ft	150.00 ml/min
6/23/2021 10:47 AM	12:00	6.00 pH	62.78 °F	3,182.8 µS/cm	1.95 mg/L	93.0 mV	7.77 ft	150.00 ml/min
6/23/2021 10:50 AM	15:00	6.00 pH	62.50 °F	2,458.4 µS/cm	0.41 mg/L	84.2 mV	7.77 ft	150.00 ml/min
6/23/2021 10:53 AM	18:00	6.00 pH	62.60 °F	2,401.7 µS/cm	0.27 mg/L	82.9 mV	7.77 ft	150.00 ml/min
6/23/2021 10:56 AM	21:00	6.00 pH	62.86 °F	2,425.8 µS/cm	0.22 mg/L	84.3 mV	7.77 ft	150.00 ml/min
6/23/2021 10:59 AM	24:00	6.00 pH	63.06 °F	2,418.3 µS/cm	0.26 mg/L	87.4 mV	7.77 ft	150.00 ml/min
6/23/2021 11:02 AM	27:00	6.00 pH	63.34 °F	2,377.7 µS/cm	0.34 mg/L	91.0 mV	7.77 ft	150.00 ml/min
6/23/2021 11:05 AM	30:00	6.00 pH	62.98 °F	2,409.1 µS/cm	0.35 mg/L	94.2 mV	7.77 ft	150.00 ml/min
6/23/2021 11:08 AM	33:00	6.00 pH	63.33 °F	2,357.8 µS/cm	0.40 mg/L	96.7 mV	7.77 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-520	Sample Time: 11:14 Final DTW: 7.79 Final RDO: 0.40 Ferrous Iron: 0.0

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# Low-Flow Test Report:

Test Date / Time: 6/23/2021 11:53:18 AM

Project: Edmonds Terminal 2Q21

Operator Name: MDA

<b>Location Name: MW-521</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 3150 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 70 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %	
6/23/2021 11:53 AM	00:00	6.17 pH	62.45 °F	2,405.8 µS/cm	5.57 mg/L	155.2 mV	150.00 ml/min
6/23/2021 11:56 AM	03:00	6.01 pH	60.93 °F	2,353.7 µS/cm	0.40 mg/L	165.4 mV	150.00 ml/min
6/23/2021 11:59 AM	06:00	6.00 pH	61.53 °F	2,149.0 µS/cm	0.48 mg/L	167.5 mV	150.00 ml/min
6/23/2021 12:02 PM	09:00	6.00 pH	61.74 °F	1,914.9 µS/cm	0.71 mg/L	168.7 mV	150.00 ml/min
6/23/2021 12:05 PM	12:00	6.00 pH	61.91 °F	1,881.7 µS/cm	0.78 mg/L	167.8 mV	150.00 ml/min
6/23/2021 12:08 PM	15:00	5.99 pH	62.19 °F	1,879.0 µS/cm	0.93 mg/L	165.9 mV	150.00 ml/min
6/23/2021 12:11 PM	18:00	5.99 pH	62.47 °F	1,876.2 µS/cm	0.99 mg/L	167.4 mV	150.00 ml/min
6/23/2021 12:14 PM	21:00	5.99 pH	62.21 °F	1,896.3 µS/cm	1.00 mg/L	166.6 mV	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-521

Sample Time: 12:24  
Final DTW: 6.71 ft btoc  
Final RDO: 1.00 mg/L  
Ferrous Iron 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/24/2021 11:19:55 AM

Project: Edmonds Terminal 2Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-522</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.27 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 6317.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.05 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Sunny 85F

## 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 %		
6/24/2021 11:19 AM	00:00	6.50 pH	67.54 °F	928.14 µS/cm	3.03 mg/L	1.33 NTU	139.3 mV	8.27 ft	150.00 ml/min
6/24/2021 11:22 AM	03:00	6.50 pH	59.12 °F	929.86 µS/cm	0.37 mg/L	0.41 NTU	89.6 mV	8.27 ft	150.00 ml/min
6/24/2021 11:25 AM	06:00	6.51 pH	58.63 °F	908.03 µS/cm	0.22 mg/L	0.17 NTU	86.1 mV	8.27 ft	150.00 ml/min
6/24/2021 11:28 AM	09:00	6.52 pH	58.29 °F	926.68 µS/cm	0.19 mg/L	0.08 NTU	75.2 mV	8.27 ft	150.00 ml/min
6/24/2021 11:31 AM	12:00	6.51 pH	58.13 °F	931.17 µS/cm	0.15 mg/L	0.00 NTU	68.9 mV	8.27 ft	150.00 ml/min
6/24/2021 11:34 AM	15:00	6.50 pH	58.07 °F	924.57 µS/cm	0.15 mg/L	0.00 NTU	55.2 mV	8.27 ft	150.00 ml/min
6/24/2021 11:37 AM	18:00	6.49 pH	58.10 °F	927.73 µS/cm	0.12 mg/L	0.00 NTU	54.2 mV	8.27 ft	150.00 ml/min
6/24/2021 11:40 AM	21:00	6.48 pH	58.00 °F	917.37 µS/cm	0.15 mg/L	1.22 NTU	49.7 mV	8.27 ft	150.00 ml/min
6/24/2021 11:43 AM	24:00	6.47 pH	58.03 °F	927.29 µS/cm	0.11 mg/L	0.00 NTU	48.1 mV	8.27 ft	150.00 ml/min
6/24/2021 11:46 AM	27:00	6.45 pH	57.98 °F	930.60 µS/cm	0.16 mg/L	0.00 NTU	41.3 mV	8.27 ft	150.00 ml/min
6/24/2021 11:50 AM	30:07	6.44 pH	57.91 °F	934.00 µS/cm	0.10 mg/L	0.00 NTU	39.1 mV	8.27 ft	150.00 ml/min
6/24/2021 11:53 AM	33:07	6.43 pH	58.05 °F	893.01 µS/cm	0.17 mg/L	0.00 NTU	33.2 mV	8.27 ft	150.00 ml/min



6/24/2021 11:56 AM	36:07	6.42 pH	58.47 °F	912.52 µS/cm	0.11 mg/L	0.00 NTU	28.5 mV	8.27 ft	150.00 ml/min
6/24/2021 11:59 AM	39:07	6.42 pH	58.61 °F	912.50 µS/cm	0.11 mg/L	0.00 NTU	25.6 mV	8.27 ft	150.00 ml/min
6/24/2021 12:02 PM	42:07	6.41 pH	58.54 °F	912.21 µS/cm	0.11 mg/L	0.00 NTU	25.2 mV	8.27 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-522	Sample Time: 12:08 Final DTW: 8.32 ft btoc Final RDO: 0.11 mg/L Ferrous Iron: 0.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/22/2021 1:13:37 PM

Project: Edmonds Terminal 2Q21 (4)

Operator Name: MDA

<b>Location Name: MW-525</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.61 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 6865 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 3.28 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 75 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/22/2021 1:13 PM	00:00	5.19 pH	68.86 °F	496.31 µS/cm	2.21 mg/L	112.2 mV	6.61 ft	150.00 ml/min
6/22/2021 1:16 PM	03:00	5.18 pH	66.18 °F	475.34 µS/cm	0.49 mg/L	121.1 mV	6.61 ft	150.00 ml/min
6/22/2021 1:19 PM	06:00	5.18 pH	63.95 °F	492.82 µS/cm	0.29 mg/L	131.8 mV	6.61 ft	150.00 ml/min
6/22/2021 1:22 PM	09:00	5.21 pH	63.74 °F	517.57 µS/cm	0.41 mg/L	136.0 mV	6.61 ft	150.00 ml/min
6/22/2021 1:25 PM	12:00	5.20 pH	63.95 °F	513.56 µS/cm	0.41 mg/L	137.8 mV	6.61 ft	150.00 ml/min
6/22/2021 1:28 PM	15:04	5.17 pH	63.44 °F	505.32 µS/cm	0.41 mg/L	145.7 mV	6.61 ft	150.00 ml/min
6/22/2021 1:29 PM	15:46	5.16 pH	63.23 °F	507.93 µS/cm	0.35 mg/L	147.7 mV	6.61 ft	150.00 ml/min
6/22/2021 1:32 PM	18:46	5.16 pH	63.30 °F	511.58 µS/cm	0.41 mg/L	155.1 mV	6.61 ft	150.00 ml/min
6/22/2021 1:35 PM	21:46	5.21 pH	63.57 °F	464.15 µS/cm	1.28 mg/L	144.2 mV	6.61 ft	150.00 ml/min
6/22/2021 1:38 PM	24:46	5.26 pH	64.15 °F	628.85 µS/cm	1.70 mg/L	133.5 mV	6.61 ft	150.00 ml/min
6/22/2021 1:41 PM	27:46	5.47 pH	61.38 °F	3,403.0 µS/cm	0.55 mg/L	42.4 mV	6.61 ft	150.00 ml/min
6/22/2021 1:44 PM	30:46	5.51 pH	61.42 °F	2,462.6 µS/cm	0.18 mg/L	26.1 mV	6.61 ft	150.00 ml/min

6/22/2021 1:47 PM	33:46	5.49 pH	64.02 °F	22.65 µS/cm	1.24 mg/L	25.9 mV	6.61 ft	150.00 ml/min
6/22/2021 1:50 PM	36:46	5.44 pH	62.89 °F	2,024.8 µS/cm	0.29 mg/L	30.7 mV	6.61 ft	150.00 ml/min
6/22/2021 1:53 PM	39:46	5.42 pH	63.70 °F	2,482.2 µS/cm	0.23 mg/L	33.4 mV	6.61 ft	150.00 ml/min
6/22/2021 1:56 PM	42:46	5.43 pH	64.68 °F	3,197.9 µS/cm	0.41 mg/L	31.9 mV	6.61 ft	150.00 ml/min
6/22/2021 1:59 PM	45:46	5.46 pH	63.70 °F	1,562.9 µS/cm	0.42 mg/L	26.0 mV	6.61 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-525	<p>Sample Time: 1404  Final DTW: 9.89  Final RDO: 0.45  Ferrous Iron: 5.5</p> <p>Parameters that did not stabilize: RDO, specific conductivity , ORP</p>

# Low-Flow Test Report:

Test Date / Time: 6/22/2021 11:17:37 AM

Project: Edmonds Terminal 2Q21 (3)

Operator Name: MA

<b>Location Name: MW-526</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.29 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 5410 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.4 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 65 F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/22/2021 11:17 AM	00:00	5.50 pH	62.70 °F	193.94 µS/cm	3.51 mg/L	76.7 mV	5.29 ft	150.00 ml/min
6/22/2021 11:20 AM	03:00	5.42 pH	59.72 °F	189.91 µS/cm	0.24 mg/L	76.3 mV	5.29 ft	150.00 ml/min
6/22/2021 11:23 AM	06:00	5.41 pH	60.36 °F	186.53 µS/cm	0.19 mg/L	80.5 mV	5.29 ft	150.00 ml/min
6/22/2021 11:26 AM	09:00	5.39 pH	60.87 °F	181.22 µS/cm	0.15 mg/L	83.8 mV	5.29 ft	150.00 ml/min
6/22/2021 11:29 AM	12:00	5.36 pH	61.50 °F	168.63 µS/cm	0.15 mg/L	89.8 mV	5.29 ft	150.00 ml/min
6/22/2021 11:32 AM	15:02	5.29 pH	61.39 °F	151.44 µS/cm	0.26 mg/L	96.7 mV	5.29 ft	150.00 ml/min
6/22/2021 11:35 AM	18:02	5.26 pH	61.69 °F	139.83 µS/cm	0.11 mg/L	105.6 mV	5.29 ft	150.00 ml/min
6/22/2021 11:38 AM	21:02	5.25 pH	62.03 °F	141.43 µS/cm	0.13 mg/L	111.6 mV	5.29 ft	150.00 ml/min
6/22/2021 11:41 AM	24:02	5.18 pH	61.54 °F	145.01 µS/cm	0.12 mg/L	111.5 mV	5.29 ft	150.00 ml/min
6/22/2021 11:44 AM	27:02	5.28 pH	61.93 °F	151.63 µS/cm	0.10 mg/L	110.3 mV	5.29 ft	150.00 ml/min
6/22/2021 11:47 AM	30:04	5.29 pH	61.49 °F	157.03 µS/cm	0.10 mg/L	109.2 mV	5.29 ft	150.00 ml/min
6/22/2021 11:50 AM	33:04	5.34 pH	61.32 °F	164.09 µS/cm	0.11 mg/L	104.4 mV	5.29 ft	150.00 ml/min

6/22/2021 11:53 AM	36:04	5.33 pH	61.62 °F	169.74 µS/cm	0.10 mg/L	102.4 mV	5.29 ft	150.00 ml/min
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## Samples

Sample ID:	Description:
MW-526	Sample Time: 12:04 Final DTW: 5.69 ft btoc Final RDO: 0.11 mg/L Ferrous Iron: 4.5 mg/ L

# Low-Flow Test Report:

**Test Date / Time:** 6/23/2021 10:44:17 AM

**Project:** Edmonds Terminal 2Q21 (2)

**Operator Name:** TB

<p><b>Location Name: MW-530</b>  <b>Well Diameter: 1 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 5 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 8 ft</b>  <b>Initial Depth to Water: 7.41 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x1/4</b>  <b>Pump Intake From TOC: 10 ft</b>  <b>Estimated Total Volume Pumped: 6750 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 467545</b></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 %		
6/23/2021 10:44 AM	00:00	6.47 pH	61.97 °F	36,082 µS/cm	1.58 mg/L	29.49 NTU	-24.8 mV	7.41 ft	150.00 ml/min
6/23/2021 10:47 AM	03:00	6.51 pH	61.17 °F	38,468 µS/cm	0.89 mg/L	7.00 NTU	-60.7 mV	7.41 ft	150.00 ml/min
6/23/2021 10:50 AM	06:00	6.52 pH	60.14 °F	39,066 µS/cm	0.24 mg/L	4.98 NTU	-80.9 mV	7.41 ft	150.00 ml/min
6/23/2021 10:53 AM	09:00	6.53 pH	59.81 °F	39,234 µS/cm	0.17 mg/L	4.14 NTU	-90.0 mV	7.41 ft	150.00 ml/min
6/23/2021 10:56 AM	12:00	6.54 pH	59.57 °F	39,275 µS/cm	0.15 mg/L	3.55 NTU	-95.5 mV	7.41 ft	150.00 ml/min
6/23/2021 10:59 AM	15:00	6.54 pH	59.68 °F	39,387 µS/cm	0.15 mg/L	2.44 NTU	-99.8 mV	7.41 ft	150.00 ml/min
6/23/2021 11:02 AM	18:00	6.54 pH	59.71 °F	39,249 µS/cm	0.14 mg/L	1.21 NTU	-103.3 mV	7.41 ft	150.00 ml/min
6/23/2021 11:05 AM	21:00	6.54 pH	59.83 °F	39,262 µS/cm	0.14 mg/L	0.66 NTU	-106.3 mV	7.41 ft	150.00 ml/min
6/23/2021 11:08 AM	24:00	6.54 pH	59.85 °F	39,172 µS/cm	0.13 mg/L	0.63 NTU	-108.7 mV	7.41 ft	150.00 ml/min
6/23/2021 11:11 AM	27:00	6.55 pH	59.81 °F	39,135 µS/cm	0.12 mg/L	0.10 NTU	-111.8 mV	7.41 ft	150.00 ml/min
6/23/2021 11:14 AM	30:00	6.55 pH	59.88 °F	39,012 µS/cm	0.12 mg/L	0.00 NTU	-114.7 mV	7.41 ft	150.00 ml/min
6/23/2021 11:17 AM	33:00	6.55 pH	59.92 °F	38,949 µS/cm	0.11 mg/L	0.08 NTU	-117.9 mV	7.41 ft	150.00 ml/min
6/23/2021 11:20 AM	36:00	6.55 pH	59.94 °F	38,756 µS/cm	0.11 mg/L	0.00 NTU	-121.1 mV	7.41 ft	150.00 ml/min
6/23/2021 11:23 AM	39:00	6.55 pH	59.88 °F	38,651 µS/cm	0.10 mg/L	0.00 NTU	-124.0 mV	7.41 ft	150.00 ml/min

6/23/2021 11:26 AM	42:00	6.56 pH	59.81 °F	38,585 µS/cm	0.10 mg/L	0.00 NTU	-127.3 mV	7.41 ft	150.00 ml/min
6/23/2021 11:29 AM	45:00	6.56 pH	59.80 °F	38,508 µS/cm	0.10 mg/L	0.78 NTU	-130.2 mV	7.41 ft	150.00 ml/min

### Samples

Sample ID:	Description:
MW-530	Sample Time: 11:32 Final DTW: 7.41 ft btoc Final RDO: 0.10 mg/L Ferrous Iron:

# Low-Flow Test Report:

**Test Date / Time:** 6/22/2021 12:54:43 PM

**Project:** Edmonds Terminal 2Q21

**Operator Name:** Daniel Sly Gilbert

<p><b>Location Name: MW-531</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 7.9 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 0.25</b>  <b>Pump Intake From TOC: 11 ft</b>  <b>Estimated Total Volume Pumped: 6300 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 466619</b></p>
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**Test Notes:**

**Weather Conditions:**

Sunny 80F

**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 %		
6/22/2021 12:54 PM	00:00	6.62 pH	64.60 °F	4,341.7 µS/cm	0.33 mg/L	139.98 NTU	14.0 mV	7.90 ft	150.00 ml/min
6/22/2021 12:57 PM	03:00	6.62 pH	64.76 °F	4,303.2 µS/cm	0.30 mg/L	54.53 NTU	6.3 mV	7.90 ft	150.00 ml/min
6/22/2021 1:00 PM	06:00	6.62 pH	64.53 °F	4,197.2 µS/cm	0.28 mg/L	8.02 NTU	8.5 mV	7.90 ft	150.00 ml/min
6/22/2021 1:03 PM	09:00	6.61 pH	64.55 °F	4,138.6 µS/cm	0.27 mg/L	2.89 NTU	10.2 mV	7.90 ft	150.00 ml/min
6/22/2021 1:06 PM	12:00	6.61 pH	64.67 °F	3,983.7 µS/cm	0.26 mg/L	0.45 NTU	13.4 mV	7.90 ft	150.00 ml/min
6/22/2021 1:09 PM	15:00	6.59 pH	64.40 °F	3,627.9 µS/cm	0.29 mg/L	0.65 NTU	16.4 mV	7.90 ft	150.00 ml/min
6/22/2021 1:12 PM	18:00	6.58 pH	64.49 °F	3,355.5 µS/cm	0.29 mg/L	0.21 NTU	21.6 mV	7.90 ft	150.00 ml/min
6/22/2021 1:15 PM	21:00	6.55 pH	64.54 °F	3,025.0 µS/cm	0.30 mg/L	0.20 NTU	23.7 mV	7.90 ft	150.00 ml/min
6/22/2021 1:18 PM	24:00	6.53 pH	64.57 °F	2,779.4 µS/cm	0.31 mg/L	0.13 NTU	28.0 mV	7.90 ft	150.00 ml/min
6/22/2021 1:21 PM	27:00	6.52 pH	64.75 °F	2,624.6 µS/cm	0.37 mg/L	0.07 NTU	31.5 mV	7.90 ft	150.00 ml/min
6/22/2021 1:24 PM	30:00	6.51 pH	64.73 °F	2,522.9 µS/cm	0.41 mg/L	0.04 NTU	36.8 mV	7.90 ft	150.00 ml/min
6/22/2021 1:27 PM	33:00	6.50 pH	64.46 °F	2,447.4 µS/cm	0.44 mg/L	0.45 NTU	38.8 mV	7.90 ft	150.00 ml/min



6/22/2021 1:30 PM	36:00	6.50 pH	64.35 °F	2,399.3 µS/cm	0.49 mg/L	0.07 NTU	42.7 mV	7.90 ft	150.00 ml/min
6/22/2021 1:33 PM	39:00	6.49 pH	64.33 °F	2,364.2 µS/cm	0.54 mg/L	0.08 NTU	44.1 mV	7.90 ft	150.00 ml/min
6/22/2021 1:36 PM	42:00	6.49 pH	64.39 °F	2,344.6 µS/cm	0.57 mg/L	0.00 NTU	46.3 mV	7.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-531	Final DTW: 7.90 Final RDO: 0.52 mg/L Ferrous Iron 3.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 8:51:40 AM

Project: Edmonds Terminal 2Q21 (5)

Operator Name: Joseph Sepiol

<b>Location Name: MW-532</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 m</b> <b>Top of Screen: 3 m</b> <b>Total Depth: 13 m</b> <b>Initial Depth to Water: 7.3 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 5850 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.16 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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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 %		
6/23/2021 8:51 AM	00:00	6.53 pH	58.27 °F	176.24 µS/cm	6.40 mg/L	0.88 NTU	137.9 mV	7.30 ft	150.00 ml/min
6/23/2021 8:54 AM	03:00	5.92 pH	57.09 °F	179.58 µS/cm	0.81 mg/L	1.97 NTU	137.3 mV	7.30 ft	150.00 ml/min
6/23/2021 8:57 AM	06:00	5.89 pH	56.93 °F	179.04 µS/cm	0.61 mg/L	6.97 NTU	133.6 mV	7.30 ft	150.00 ml/min
6/23/2021 9:00 AM	09:00	5.88 pH	56.90 °F	177.92 µS/cm	0.42 mg/L	1.60 NTU	141.0 mV	7.30 ft	150.00 ml/min
6/23/2021 9:03 AM	12:00	5.87 pH	57.04 °F	177.35 µS/cm	0.31 mg/L	8.16 NTU	143.3 mV	7.30 ft	150.00 ml/min
6/23/2021 9:06 AM	15:00	5.85 pH	57.22 °F	176.83 µS/cm	0.34 mg/L	9.04 NTU	147.6 mV	7.30 ft	150.00 ml/min
6/23/2021 9:09 AM	18:00	5.86 pH	58.06 °F	176.52 µS/cm	0.47 mg/L	8.46 NTU	153.4 mV	7.30 ft	150.00 ml/min
6/23/2021 9:12 AM	21:00	5.86 pH	57.66 °F	177.64 µS/cm	0.81 mg/L	4.48 NTU	155.7 mV	7.30 ft	150.00 ml/min
6/23/2021 9:15 AM	24:00	5.87 pH	57.42 °F	182.41 µS/cm	0.61 mg/L	3.02 NTU	146.9 mV	7.30 ft	150.00 ml/min
6/23/2021 9:18 AM	27:00	5.88 pH	57.63 °F	183.16 µS/cm	0.43 mg/L	2.00 NTU	138.3 mV	7.30 ft	150.00 ml/min
6/23/2021 9:21 AM	30:00	5.87 pH	57.47 °F	181.01 µS/cm	0.51 mg/L	2.71 NTU	136.7 mV	7.30 ft	150.00 ml/min
6/23/2021 9:24 AM	33:00	5.88 pH	57.43 °F	181.60 µS/cm	0.54 mg/L	1.32 NTU	135.1 mV	7.30 ft	150.00 ml/min
6/23/2021 9:27 AM	36:00	5.89 pH	57.14 °F	181.47 µS/cm	0.53 mg/L	1.03 NTU	129.3 mV	7.30 ft	150.00 ml/min
6/23/2021 9:30 AM	39:00	5.89 pH	57.84 °F	183.20 µS/cm	0.64 mg/L	0.96 NTU	129.5 mV	7.30 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-532	Sample Time: 0932 Final DTW: 8.46 ft Final DRO: 0.64 mg/L Ferrous Iron: 0.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 6/22/2021 12:27:12 PM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-533</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.17 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

Sunny, 72

## 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 %		
6/22/2021 12:27 PM	00:00	6.78 pH	67.17 °F	37,047 µS/cm	7.42 mg/L	3.56 NTU	53.6 mV	5.17 ft	150.00 ml/min
6/22/2021 12:30 PM	03:00	6.94 pH	65.14 °F	38,057 µS/cm	4.59 mg/L	6.35 NTU	60.5 mV	5.17 ft	150.00 ml/min
6/22/2021 12:33 PM	06:00	6.96 pH	64.52 °F	38,217 µS/cm	4.10 mg/L	6.61 NTU	62.9 mV	5.17 ft	150.00 ml/min
6/22/2021 12:36 PM	09:00	6.96 pH	64.27 °F	38,407 µS/cm	3.95 mg/L	6.80 NTU	64.7 mV	5.17 ft	150.00 ml/min
6/22/2021 12:39 PM	12:00	6.96 pH	64.32 °F	38,461 µS/cm	3.85 mg/L	6.69 NTU	66.4 mV	5.17 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-533	Sample Time: 12:42 Final DTW: 5.17 ft btoc Final RDO: 3.84 mg/L Ferrous Iron:

# Low-Flow Test Report:

Test Date / Time: 6/22/2021 10:59:08 AM

Project: Edmonds Terminal 2Q21

Operator Name: TB

<b>Location Name: MW-534</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.54 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 6 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

## Weather Conditions:

Sunny, 66 F

## 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 %		
6/22/2021 10:59 AM	00:00	6.27 pH	67.05 °F	32,008 µS/cm	5.66 mg/L		171.0 mV	3.54 ft	150.00 ml/min
6/22/2021 11:02 AM	03:00	6.47 pH	64.78 °F	33,752 µS/cm	1.53 mg/L	3.96 NTU	115.1 mV	3.54 ft	150.00 ml/min
6/22/2021 11:05 AM	06:00	6.50 pH	64.41 °F	33,988 µS/cm	0.69 mg/L	4.33 NTU	89.6 mV	3.54 ft	150.00 ml/min
6/22/2021 11:08 AM	09:00	6.52 pH	63.98 °F	32,724 µS/cm	0.40 mg/L	6.19 NTU	74.3 mV	3.54 ft	150.00 ml/min
6/22/2021 11:11 AM	12:00	6.53 pH	64.00 °F	31,695 µS/cm	0.23 mg/L	5.00 NTU	59.3 mV	3.54 ft	150.00 ml/min
6/22/2021 11:14 AM	15:00	6.53 pH	64.05 °F	31,492 µS/cm	0.21 mg/L	6.85 NTU	49.3 mV	3.54 ft	150.00 ml/min
6/22/2021 11:17 AM	18:00	6.53 pH	64.03 °F	30,279 µS/cm	0.20 mg/L	7.18 NTU	40.8 mV	3.54 ft	150.00 ml/min
6/22/2021 11:20 AM	21:00	6.53 pH	64.11 °F	30,034 µS/cm	0.19 mg/L	7.59 NTU	34.5 mV	3.54 ft	150.00 ml/min
6/22/2021 11:23 AM	24:00	6.53 pH	64.04 °F	30,100 µS/cm	0.18 mg/L	9.06 NTU	29.3 mV	3.54 ft	150.00 ml/min
6/22/2021 11:26 AM	27:00	6.53 pH	64.00 °F	30,586 µS/cm	0.19 mg/L	9.39 NTU	26.0 mV	3.54 ft	150.00 ml/min
6/22/2021 11:29 AM	30:00	6.53 pH	63.96 °F	29,239 µS/cm	0.17 mg/L	10.42 NTU	21.5 mV	3.54 ft	150.00 ml/min
6/22/2021 11:32 AM	33:00	6.53 pH	64.28 °F	28,956 µS/cm	0.16 mg/L	11.12 NTU	17.8 mV	3.54 ft	150.00 ml/min

6/22/2021 11:35 AM	36:00	6.52 pH	64.41 °F	28,817 µS/cm	0.15 mg/L	11.87 NTU	15.1 mV	3.54 ft	150.00 ml/min
6/22/2021 11:38 AM	39:00	6.52 pH	64.24 °F	29,311 µS/cm	0.15 mg/L	12.65 NTU	13.4 mV	3.54 ft	150.00 ml/min
6/22/2021 11:41 AM	42:00	6.52 pH	64.35 °F	28,792 µS/cm	0.15 mg/L	12.93 NTU	11.2 mV	3.54 ft	150.00 ml/min
6/22/2021 11:44 AM	45:00	6.52 pH	64.22 °F	28,698 µS/cm	0.15 mg/L	13.34 NTU	9.5 mV	3.54 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-534	Sample Time: 11:42 Final DTW: 3.56 ft btoc Final RDO: 0.15 mg/L Ferrous Iron:

# Low-Flow Test Report:

Test Date / Time: 6/23/2021 9:51:47 AM

Project: Edmonds Terminal 2Q21 (2)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-535</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.83 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.07 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

Cloudy 70F

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
6/23/2021 9:51 AM	00:00	6.35 pH	60.03 °F	32,187 µS/cm	6.99 mg/L	218.5 mV	4.83 ft	150.00 ml/min
6/23/2021 9:54 AM	03:00	6.50 pH	59.93 °F	32,999 µS/cm	4.83 mg/L	195.8 mV	4.83 ft	150.00 ml/min
6/23/2021 9:57 AM	06:00	6.54 pH	59.99 °F	33,178 µS/cm	4.72 mg/L	189.4 mV	4.83 ft	150.00 ml/min
6/23/2021 10:00 AM	09:00	6.62 pH	59.89 °F	33,310 µS/cm	4.70 mg/L	186.9 mV	4.83 ft	150.00 ml/min
6/23/2021 10:03 AM	12:00	6.69 pH	59.82 °F	33,385 µS/cm	4.68 mg/L	182.5 mV	4.83 ft	150.00 ml/min
6/23/2021 10:06 AM	15:00	6.77 pH	59.71 °F	33,417 µS/cm	4.66 mg/L	179.3 mV	4.83 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-535	Sample Time: 1038 Final DTW: 4.90 Final RDO: 4.66 Ferrous Iron: 0.0





# Low-Flow Test Report:

**Test Date / Time:** 6/22/2021 11:12:29 AM

**Project:** Edmonds Terminal 2Q21 (3)

**Operator Name:** Joseph Sepiol

<b>Location Name: MW-ER</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.02 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6765 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.65 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

75F clear

## 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 %		
6/22/2021 11:12 AM	00:00	6.63 pH	62.38 °F	1,460.0 µS/cm	2.24 mg/L	9.34 NTU	-50.8 mV	7.02 ft	150.00 ml/min
6/22/2021 11:15 AM	03:00	6.64 pH	61.93 °F	1,463.3 µS/cm	0.20 mg/L	12.99 NTU	-80.5 mV	7.02 ft	150.00 ml/min
6/22/2021 11:18 AM	06:00	6.63 pH	61.70 °F	1,465.3 µS/cm	0.10 mg/L	14.19 NTU	-91.1 mV	7.02 ft	150.00 ml/min
6/22/2021 11:21 AM	09:00	6.62 pH	61.49 °F	1,459.6 µS/cm	0.08 mg/L	24.58 NTU	-96.8 mV	7.02 ft	150.00 ml/min
6/22/2021 11:24 AM	12:00	6.62 pH	61.56 °F	1,450.4 µS/cm	0.07 mg/L	39.20 NTU	-98.3 mV	7.02 ft	150.00 ml/min
6/22/2021 11:27 AM	15:00	6.62 pH	61.56 °F	1,452.0 µS/cm	0.05 mg/L	67.83 NTU	-99.6 mV	7.02 ft	150.00 ml/min
6/22/2021 11:30 AM	18:04	6.63 pH	61.45 °F	1,473.9 µS/cm	0.05 mg/L	59.31 NTU	-100.6 mV	7.02 ft	150.00 ml/min
6/22/2021 11:33 AM	21:04	6.63 pH	61.50 °F	1,461.1 µS/cm	0.04 mg/L	71.50 NTU	-101.4 mV	7.02 ft	150.00 ml/min
6/22/2021 11:36 AM	24:04	6.64 pH	61.39 °F	1,471.4 µS/cm	0.03 mg/L	101.90 NTU	-102.4 mV	7.02 ft	150.00 ml/min
6/22/2021 11:39 AM	27:04	6.64 pH	61.57 °F	1,458.1 µS/cm	0.02 mg/L	113.97 NTU	-102.6 mV	7.02 ft	150.00 ml/min
6/22/2021 11:42 AM	30:04	6.65 pH	61.34 °F	1,458.2 µS/cm	0.02 mg/L	129.32 NTU	-101.3 mV	7.02 ft	150.00 ml/min
6/22/2021 11:45 AM	33:04	6.65 pH	61.43 °F	1,461.8 µS/cm	0.02 mg/L	130.49 NTU	-100.0 mV	7.02 ft	150.00 ml/min

6/22/2021 11:48 AM	36:04	6.65 pH	61.29 °F	1,473.9 µS/cm	0.01 mg/L	122.64 NTU	-97.6 mV	7.02 ft	150.00 ml/min
6/22/2021 11:51 AM	39:04	6.65 pH	61.52 °F	1,512.5 µS/cm	0.01 mg/L	157.56 NTU	-97.4 mV	7.02 ft	150.00 ml/min
6/22/2021 11:54 AM	42:04	6.66 pH	61.53 °F	1,525.4 µS/cm	0.01 mg/L	191.39 NTU	-98.9 mV	7.02 ft	150.00 ml/min
6/22/2021 11:57 AM	45:06	6.66 pH	61.40 °F	1,504.0 µS/cm	0.01 mg/L	201.23 NTU	-99.7 mV	7.02 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-ER	<p>Sample Time: 1206                      Odor: Slight  Final DTW: 7.67                        Color: Yellow  Final RDO: 0.01                        Entrained gases visible in samples  Ferrous Iron: 3.0  ORP did not stabilize after 45 min  DUP-2</p>

8-23-21

## 3Q 21 Gauging sheet

Well	Time	DTW	PID	Well	Time	DTW	PID
LM-2	1156	1.46	0.0	MW-109	—	—	—
MW-8R	1149	8.26	0.0	MW-134X	1104	26.42	0.0
MW-20R	1154	6.89	0.0	MW-135	1120	11.14	0.0
MW-101	1200	9.00	1.0	MW-136	1109	8.65	0.0
MW-104	1157	8.41	0.0	MW-147	1142	5.79	0.0
MW-129R	1126	5.75	0.0	MW-149R	1135	7.24	0.0
MW-139R	1206	7.12	0.0	MW-150	1129	7.04	0.0
MW-518	1203	8.52	0.0	MW-203	1102	22.61	0.0
MW-522	1152	8.26	0.0	MW-500	1122	6.98	0.0
MW-530	1158	6.73	0.0	MW-501	1125	6.00	0.0
MW-533	1142	5.10	0.0	MW-523	1146	7.98	0.0
MW-535	1140	4.90	0.0	MW-524	1139	7.29	0.0
MW-126	1108	5.93	0.0	MW-527	1118	10.29	1.0
MW-143	1110	5.49	1.0	MW-528	1115	11.11	0.0
MW-502	1152	5.50	0.0	MW-51	1125	5.69	0.0
MW-503	1149	5.18	0.0	MW-ER	1130	7.23	3.0
MW-504	1145	6.63	0.0				
MW-505	—	—	—				
MW-506	1132	6.70	0.0				
MW-507	1156	6.86	0.0				
MW-509	1206	5.56	0.0				
MW-511	1057	8.13	0.0				
MW-512	1219	6.55	0.0				
MW-513	1217	4.40	0.0				
MW-514	1215	4.71	0.0				
MW-515	1208	4.91	0.0				
MW-516	1210	4.57	0.0				
MW-517	1212	5.32	0.0				
MW-519	1117	7.00	0.0				
MW-520	1119	7.67	0.0				
MW-521	1122	6.58	0.0				
MW-525	1100	6.41	0.0				
MW-526	1220	5.66	0.0				
MW-531	1114	7.62	0.0				
MW-532	1103	7.34	0.0				
MW-534	1137	3.46	0.0				
MW-134	1100	17.33	0.0				
MW-108	1200	5.70	0.0				

Low tide was at 12:09 PM  
No product detected

MW-109 could not be gauged  
due to fallen tree

MW-505 could not be  
gauged due to wasps

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 12:22:58 PM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: LM-2</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 55 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 8 ft</b> <b>Initial Depth to Water: 1.41 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 68

## 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 %		
8/24/2021 12:22 PM	00:00	4.37 pH	88.96 °F	2.28 µS/cm	7.21 mg/L	1.40 NTU	118.1 mV	1.41 ft	150.00 ml/min
8/24/2021 12:25 PM	03:00	4.35 pH	84.39 °F	1.96 µS/cm	7.49 mg/L	0.96 NTU	105.3 mV	1.41 ft	150.00 ml/min
8/24/2021 12:28 PM	06:00	4.67 pH	80.36 °F	12.79 µS/cm	7.80 mg/L	0.61 NTU	75.3 mV	1.41 ft	150.00 ml/min
8/24/2021 12:31 PM	09:00	4.58 pH	78.14 °F	4.67 µS/cm	7.98 mg/L	0.52 NTU	77.7 mV	1.41 ft	150.00 ml/min
8/24/2021 12:34 PM	12:00	4.90 pH	76.61 °F	5.43 µS/cm	8.11 mg/L	0.44 NTU	86.8 mV	1.41 ft	150.00 ml/min
8/24/2021 12:37 PM	15:00	5.17 pH	75.22 °F	9.38 µS/cm	8.25 mg/L	0.32 NTU	79.1 mV	1.41 ft	150.00 ml/min
8/24/2021 12:40 PM	18:00	5.03 pH	74.64 °F	6.59 µS/cm	8.30 mg/L	0.30 NTU	87.2 mV	1.41 ft	150.00 ml/min
8/24/2021 12:43 PM	21:00	5.29 pH	73.97 °F	4.42 µS/cm	8.36 mg/L	0.21 NTU	86.1 mV	1.41 ft	150.00 ml/min
8/24/2021 12:46 PM	24:00	5.19 pH	73.52 °F	3.62 µS/cm	8.42 mg/L	0.21 NTU	93.0 mV	1.41 ft	150.00 ml/min
8/24/2021 12:49 PM	27:00	5.35 pH	73.13 °F	3.91 µS/cm	8.45 mg/L	0.16 NTU	91.2 mV	1.41 ft	150.00 ml/min
8/24/2021 12:52 PM	30:00	5.42 pH	72.77 °F	5.07 µS/cm	8.50 mg/L	0.09 NTU	91.4 mV	1.41 ft	150.00 ml/min
8/24/2021 12:55 PM	33:00	5.42 pH	72.60 °F	3.41 µS/cm	8.51 mg/L	0.11 NTU	102.9 mV	1.41 ft	150.00 ml/min

8/24/2021 12:58 PM	36:00	5.56 pH	72.39 °F	3.53 µS/cm	8.54 mg/L	0.07 NTU	101.0 mV	1.41 ft	150.00 ml/min
8/24/2021 1:01 PM	39:00	5.50 pH	72.27 °F	3.14 µS/cm	8.55 mg/L	0.09 NTU	105.8 mV	1.41 ft	150.00 ml/min
8/24/2021 1:04 PM	42:00	5.58 pH	72.21 °F	2.58 µS/cm	8.56 mg/L	0.08 NTU	111.2 mV	1.41 ft	150.00 ml/min
8/24/2021 1:07 PM	45:00	5.66 pH	72.08 °F	4.04 µS/cm	8.58 mg/L	0.04 NTU	107.9 mV	1.41 ft	150.00 ml/min

## Samples

Sample ID:	Description:
LM-2	Sample Time: 1314 Final DTW: 2.71 ft btoc Final RDO: 8.58 mg/L

# Low-Flow Test Report:

**Test Date / Time:** 8/25/2021 9:55:01 AM

**Project:** Edmonds Terminal 3Q21 (5)

**Operator Name:** Daniel Sly Gilbert

<b>Location Name: MW-8R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.22 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 4950 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/25/2021 9:55 AM	00:00	6.47 pH	75.08 °F	1,538.1 µS/cm	5.45 mg/L	2.34 NTU	117.7 mV	8.22 ft	150.00 ml/min
8/25/2021 9:58 AM	03:00	6.51 pH	65.60 °F	1,650.4 µS/cm	3.13 mg/L	0.00 NTU	117.7 mV	8.22 ft	150.00 ml/min
8/25/2021 10:01 AM	06:00	6.51 pH	64.14 °F	1,663.4 µS/cm	2.64 mg/L	2.72 NTU	116.0 mV	8.22 ft	150.00 ml/min
8/25/2021 10:04 AM	09:00	6.51 pH	63.48 °F	1,660.8 µS/cm	2.26 mg/L	1.33 NTU	116.3 mV	8.22 ft	150.00 ml/min
8/25/2021 10:07 AM	12:00	6.54 pH	63.45 °F	1,670.3 µS/cm	2.32 mg/L	68.18 NTU	116.2 mV	8.22 ft	150.00 ml/min
8/25/2021 10:10 AM	15:00	6.54 pH	63.23 °F	1,677.3 µS/cm	3.05 mg/L	486.73 NTU	115.9 mV	8.22 ft	150.00 ml/min
8/25/2021 10:13 AM	18:00	6.55 pH	62.99 °F	1,675.6 µS/cm	2.91 mg/L	28.56 NTU	115.7 mV	8.22 ft	150.00 ml/min
8/25/2021 10:16 AM	21:00	6.57 pH	62.81 °F	1,672.9 µS/cm	3.62 mg/L	72.43 NTU	115.1 mV	8.22 ft	150.00 ml/min
8/25/2021 10:19 AM	24:00	6.58 pH	62.66 °F	1,465.1 µS/cm	3.12 mg/L	139.25 NTU	114.7 mV	8.22 ft	150.00 ml/min
8/25/2021 10:22 AM	27:00	6.59 pH	62.56 °F	1,683.5 µS/cm	3.41 mg/L	624.20 NTU	114.3 mV	8.22 ft	150.00 ml/min
8/25/2021 10:25 AM	30:00	6.60 pH	62.52 °F	1,681.4 µS/cm	3.25 mg/L	0.00 NTU	113.7 mV	8.22 ft	150.00 ml/min
8/25/2021 10:28 AM	33:00	6.60 pH	62.45 °F	1,684.3 µS/cm	3.53 mg/L	3.80 NTU	113.5 mV	8.22 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-8R	Sample Time: 10:32 Final DTW: 8.24 ft btoc Final RDO: 3.53 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 11:09:40 AM

Project: Edmonds Terminal 3Q21 (6)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-20R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4 ft</b> <b>Total Depth: 14.5 ft</b> <b>Initial Depth to Water: 6.56 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.25 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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## Test Notes:

Sample Time: 1202

Final DTW: 6.81 ft btoc

Final RDO: 2.89 mg/L

## 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 %		
8/25/2021 11:09 AM	00:00	6.26 pH	70.49 °F	30,086 µS/cm	7.09 mg/L	72.79 NTU	134.3 mV	6.56 ft	150.00 ml/min
8/25/2021 11:12 AM	03:00	6.71 pH	63.34 °F	33,610 µS/cm	2.77 mg/L	6.02 NTU	82.3 mV	6.56 ft	150.00 ml/min
8/25/2021 11:15 AM	06:00	6.72 pH	62.54 °F	33,546 µS/cm	2.13 mg/L	7.37 NTU	62.3 mV	6.56 ft	150.00 ml/min
8/25/2021 11:18 AM	09:00	6.67 pH	61.91 °F	33,118 µS/cm	2.54 mg/L	49.52 NTU	55.5 mV	6.56 ft	150.00 ml/min
8/25/2021 11:21 AM	12:00	6.60 pH	61.60 °F	32,428 µS/cm	1.98 mg/L	99.79 NTU	56.4 mV	6.56 ft	150.00 ml/min
8/25/2021 11:24 AM	15:00	6.57 pH	61.55 °F	31,813 µS/cm	2.77 mg/L	5,080.2 NTU	54.6 mV	6.56 ft	150.00 ml/min
8/25/2021 11:27 AM	18:00	6.56 pH	61.37 °F	31,503 µS/cm	2.23 mg/L	5,286.7 NTU	52.5 mV	6.56 ft	150.00 ml/min
8/25/2021 11:30 AM	21:00	6.53 pH	61.39 °F	31,215 µS/cm	1.43 mg/L	5,470.3 NTU	46.8 mV	6.56 ft	150.00 ml/min
8/25/2021 11:33 AM	24:00	6.52 pH	61.40 °F	30,911 µS/cm	1.22 mg/L	6,762.8 NTU	40.4 mV	6.56 ft	150.00 ml/min
8/25/2021 11:36 AM	27:00	6.51 pH	61.28 °F	30,731 µS/cm	1.94 mg/L	6,627.9 NTU	35.5 mV	6.56 ft	150.00 ml/min



8/25/2021 11:39 AM	30:00	6.52 pH	61.31 °F	30,918 µS/cm	2.84 mg/L	6,348.8 NTU	31.6 mV	6.56 ft	150.00 ml/min
8/25/2021 11:42 AM	33:00	6.51 pH	61.21 °F	30,426 µS/cm	2.06 mg/L	634.48 NTU	28.4 mV	6.56 ft	150.00 ml/min
8/25/2021 11:45 AM	36:00	6.51 pH	61.22 °F	30,419 µS/cm	2.36 mg/L	862.57 NTU	25.0 mV	6.56 ft	150.00 ml/min
8/25/2021 11:48 AM	39:00	6.50 pH	61.27 °F	30,496 µS/cm	1.98 mg/L	812.77 NTU	22.6 mV	6.56 ft	150.00 ml/min
8/25/2021 11:51 AM	42:00	6.51 pH	61.33 °F	30,410 µS/cm	1.92 mg/L	117.69 NTU	22.2 mV	6.56 ft	150.00 ml/min
8/25/2021 11:54 AM	45:00	6.51 pH	61.37 °F	30,473 µS/cm	2.89 mg/L	275.37 NTU	23.3 mV	6.56 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 8/26/2021 10:09:20 AM

Project: Edmonds Terminal 3Q21 (9)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-101</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.85 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.35 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/26/2021 10:09 AM	00:00	7.22 pH	65.68 °F	503.97 µS/cm	4.27 mg/L	6.64 NTU	-5.6 mV	8.85 ft	150.00 ml/min
8/26/2021 10:12 AM	03:00	7.08 pH	64.97 °F	515.78 µS/cm	1.60 mg/L	2.28 NTU	-28.8 mV	8.85 ft	150.00 ml/min
8/26/2021 10:15 AM	06:00	7.07 pH	64.45 °F	539.23 µS/cm	0.85 mg/L	0.00 NTU	-52.8 mV	8.85 ft	150.00 ml/min
8/26/2021 10:18 AM	09:00	7.07 pH	64.13 °F	560.47 µS/cm	0.79 mg/L	1.59 NTU	-64.9 mV	8.85 ft	150.00 ml/min
8/26/2021 10:21 AM	12:00	7.07 pH	63.96 °F	576.46 µS/cm	0.82 mg/L	0.40 NTU	-73.3 mV	8.85 ft	150.00 ml/min
8/26/2021 10:24 AM	15:00	7.07 pH	63.68 °F	582.85 µS/cm	0.76 mg/L	0.00 NTU	-81.4 mV	8.85 ft	150.00 ml/min
8/26/2021 10:27 AM	18:00	7.07 pH	63.45 °F	583.31 µS/cm	0.85 mg/L	0.00 NTU	-83.5 mV	8.85 ft	150.00 ml/min
8/26/2021 10:30 AM	21:00	7.09 pH	63.34 °F	582.87 µS/cm	0.60 mg/L	0.00 NTU	-90.1 mV	8.85 ft	150.00 ml/min
8/26/2021 10:33 AM	24:00	7.08 pH	63.13 °F	586.97 µS/cm	0.77 mg/L	0.00 NTU	-93.2 mV	8.85 ft	150.00 ml/min
8/26/2021 10:36 AM	27:00	7.09 pH	63.04 °F	593.42 µS/cm	0.77 mg/L	146.61 NTU	-97.4 mV	8.85 ft	150.00 ml/min
8/26/2021 10:39 AM	30:00	7.08 pH	62.90 °F	608.97 µS/cm	0.50 mg/L	2.04 NTU	-99.9 mV	8.85 ft	150.00 ml/min
8/26/2021 10:42 AM	33:00	7.08 pH	62.79 °F	629.41 µS/cm	0.75 mg/L	0.00 NTU	-103.4 mV	8.85 ft	150.00 ml/min

8/26/2021 10:45 AM	36:00	7.06 pH	62.68 °F	671.50 µS/cm	0.57 mg/L	0.00 NTU	-106.8 mV	8.85 ft	150.00 ml/min
8/26/2021 10:48 AM	39:00	7.06 pH	62.77 °F	694.29 µS/cm	0.68 mg/L	0.00 NTU	-110.5 mV	8.85 ft	150.00 ml/min
8/26/2021 10:51 AM	42:00	7.05 pH	62.78 °F	712.39 µS/cm	0.60 mg/L	0.00 NTU	-111.9 mV	8.85 ft	150.00 ml/min
8/26/2021 10:54 AM	45:00	7.04 pH	62.76 °F	732.10 µS/cm	0.72 mg/L	2.14 NTU	-111.9 mV	8.85 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-101	Sample Time: 1102 Final DTW: 9.20 ft btoc Final RDO: 0.72 mg/L RDO did not stabilize after 45 minutes

# Low-Flow Test Report:

Test Date / Time: 8/23/2021 12:55:06 PM

Project: Edmonds Terminal 3Q21

Operator Name: JMS

<b>Location Name: MW-104</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.45 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 12 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.31 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

62F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/23/2021 12:55 PM	00:00	4.87 pH	63.13 °F	446.82 µS/cm	8.28 mg/L	237.4 mV	8.45 ft	150.00 ml/min
8/23/2021 12:58 PM	03:00	6.25 pH	61.77 °F	7,340.4 µS/cm	0.81 mg/L	120.4 mV	8.45 ft	150.00 ml/min
8/23/2021 1:01 PM	06:00	6.32 pH	62.14 °F	7,340.5 µS/cm	0.52 mg/L	89.9 mV	8.45 ft	150.00 ml/min
8/23/2021 1:04 PM	09:00	6.34 pH	62.49 °F	7,350.3 µS/cm	0.49 mg/L	64.3 mV	8.45 ft	150.00 ml/min
8/23/2021 1:07 PM	12:00	6.35 pH	62.26 °F	7,344.3 µS/cm	0.44 mg/L	44.3 mV	8.45 ft	150.00 ml/min
8/23/2021 1:10 PM	15:00	6.34 pH	62.50 °F	7,372.7 µS/cm	0.52 mg/L	31.8 mV	8.45 ft	150.00 ml/min
8/23/2021 1:13 PM	18:00	6.34 pH	62.53 °F	7,419.1 µS/cm	0.83 mg/L	23.4 mV	8.45 ft	150.00 ml/min
8/23/2021 1:16 PM	21:00	6.33 pH	62.54 °F	7,463.2 µS/cm	0.59 mg/L	18.0 mV	8.45 ft	150.00 ml/min
8/23/2021 1:19 PM	24:00	6.33 pH	62.54 °F	7,461.7 µS/cm	0.39 mg/L	13.1 mV	8.45 ft	150.00 ml/min
8/23/2021 1:22 PM	27:00	6.34 pH	62.50 °F	7,498.5 µS/cm	0.37 mg/L	9.5 mV	8.45 ft	150.00 ml/min
8/23/2021 1:25 PM	30:00	6.34 pH	62.32 °F	7,544.0 µS/cm	0.33 mg/L	7.1 mV	8.45 ft	150.00 ml/min
8/23/2021 1:28 PM	33:00	6.35 pH	62.04 °F	7,555.5 µS/cm	0.29 mg/L	4.3 mV	8.45 ft	150.00 ml/min

8/23/2021 1:31 PM	36:00	6.34 pH	62.19 °F	7,572.5 µS/cm	0.33 mg/L	2.6 mV	8.45 ft	150.00 ml/min
8/23/2021 1:34 PM	39:00	6.33 pH	62.26 °F	7,578.6 µS/cm	0.34 mg/L	1.8 mV	8.45 ft	150.00 ml/min
8/23/2021 1:37 PM	42:00	6.33 pH	62.20 °F	7,602.9 µS/cm	0.29 mg/L	0.6 mV	8.45 ft	150.00 ml/min
8/23/2021 1:40 PM	45:00	6.33 pH	62.23 °F	7,640.7 µS/cm	0.29 mg/L	-0.3 mV	8.45 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-104	Sample Time: 1346 RDO and ORP did not stabilize Final DTW: 8.76 ft

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 8:51:23 AM

Project: Edmonds Terminal 3Q21 (5)

Operator Name: JMS

<b>Location Name: MW-126</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 3.7 ft</b> <b>Total Depth: 14.2 ft</b> <b>Initial Depth to Water: 5.9 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 2.42 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

62F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/25/2021 8:51 AM	00:00	6.49 pH	58.71 °F	5.63 µS/cm	10.96 mg/L	129.5 mV	5.90 ft	150.00 ml/min
8/25/2021 8:54 AM	03:00	6.45 pH	57.27 °F	5.84 µS/cm	11.20 mg/L	131.0 mV	5.90 ft	150.00 ml/min
8/25/2021 8:57 AM	06:00	6.43 pH	56.68 °F	5.91 µS/cm	11.25 mg/L	132.3 mV	5.90 ft	150.00 ml/min
8/25/2021 9:00 AM	09:00	6.42 pH	56.36 °F	5.88 µS/cm	11.28 mg/L	133.3 mV	5.90 ft	150.00 ml/min
8/25/2021 9:03 AM	12:00	6.41 pH	56.19 °F	5.80 µS/cm	11.31 mg/L	134.2 mV	5.90 ft	150.00 ml/min
8/25/2021 9:06 AM	15:00	6.41 pH	56.09 °F	5.72 µS/cm	11.31 mg/L	134.9 mV	5.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-126	Sample Time: 0916 Final DTW: 8.32 ft

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 9:24:22 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-129R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.73 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6807.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 60

## 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 %		
8/24/2021 9:24 AM	00:00	5.49 pH	60.87 °F	0.66 µS/cm	9.97 mg/L	0.00 NTU	140.8 mV	5.73 ft	150.00 ml/min
8/24/2021 9:27 AM	03:00	5.17 pH	59.69 °F	1.17 µS/cm	9.98 mg/L	0.00 NTU	136.2 mV	5.73 ft	150.00 ml/min
8/24/2021 9:30 AM	06:07	5.22 pH	59.25 °F	1.20 µS/cm	10.01 mg/L	0.00 NTU	120.5 mV	5.73 ft	150.00 ml/min
8/24/2021 9:33 AM	09:23	5.21 pH	58.99 °F	1.10 µS/cm	10.03 mg/L	0.00 NTU	111.8 mV	5.73 ft	150.00 ml/min
8/24/2021 9:36 AM	12:23	5.08 pH	58.82 °F	0.77 µS/cm	10.03 mg/L	0.00 NTU	118.3 mV	5.73 ft	150.00 ml/min
8/24/2021 9:39 AM	15:23	5.14 pH	58.69 °F	2.03 µS/cm	10.04 mg/L	0.00 NTU	107.7 mV	5.73 ft	150.00 ml/min
8/24/2021 9:42 AM	18:23	5.14 pH	58.66 °F	1.81 µS/cm	10.04 mg/L	0.00 NTU	99.6 mV	5.73 ft	150.00 ml/min
8/24/2021 9:45 AM	21:23	4.96 pH	58.62 °F	1.35 µS/cm	10.03 mg/L	0.00 NTU	107.8 mV	5.73 ft	150.00 ml/min
8/24/2021 9:48 AM	24:23	4.95 pH	58.62 °F	1.31 µS/cm	10.01 mg/L	0.00 NTU	101.5 mV	5.73 ft	150.00 ml/min
8/24/2021 9:51 AM	27:23	5.02 pH	58.66 °F	2.28 µS/cm	10.00 mg/L	0.00 NTU	95.1 mV	5.73 ft	150.00 ml/min
8/24/2021 9:54 AM	30:23	4.98 pH	58.69 °F	2.02 µS/cm	9.98 mg/L	0.00 NTU	96.4 mV	5.73 ft	150.00 ml/min
8/24/2021 9:57 AM	33:23	4.85 pH	58.69 °F	1.65 µS/cm	9.97 mg/L	0.00 NTU	101.7 mV	5.73 ft	150.00 ml/min

8/24/2021 10:00 AM	36:23	4.92 pH	58.62 °F	2.37 µS/cm	9.96 mg/L	0.00 NTU	99.3 mV	5.73 ft	150.00 ml/min
8/24/2021 10:03 AM	39:23	4.91 pH	58.58 °F	2.10 µS/cm	9.95 mg/L	0.00 NTU	94.3 mV	5.73 ft	150.00 ml/min
8/24/2021 10:06 AM	42:23	4.81 pH	58.57 °F	1.78 µS/cm	9.92 mg/L	0.00 NTU	102.1 mV	5.73 ft	150.00 ml/min
8/24/2021 10:09 AM	45:23	4.89 pH	58.70 °F	2.93 µS/cm	9.91 mg/L	0.00 NTU	101.1 mV	5.73 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-129R	<p>Sample Time: 1014</p> <p>Final DTW: 6.54 ft btoc</p> <p>Final RDO: 9.91 mg/L</p> <p>Specific Conductance did not stabilize after 45 minutes.</p>



# Low-Flow Test Report:

**Test Date / Time:** 8/25/2021 12:39:51 PM

**Project:** Edmonds Terminal 3Q21 (7)

**Operator Name:** Daniel Sly Gilbert

<p><b>Location Name: MW-139R</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10.5 ft</b>  <b>Top of Screen: 4.4 ft</b>  <b>Total Depth: 14.9 ft</b>  <b>Initial Depth to Water: 7.14 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 0.25</b>  <b>Pump Intake From TOC: 10 ft</b>  <b>Estimated Total Volume Pumped: 5850 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 467545</b></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 %		
8/25/2021 12:39 PM	00:00	6.78 pH	71.38 °F	24,062 µS/cm	5.08 mg/L	9.92 NTU	72.6 mV	7.14 ft	150.00 ml/min
8/25/2021 12:42 PM	03:00	6.83 pH	69.93 °F	227.74 µS/cm	2.49 mg/L	0.00 NTU	73.9 mV	7.14 ft	150.00 ml/min
8/25/2021 12:45 PM	06:00	6.84 pH	68.80 °F	12,976 µS/cm	1.87 mg/L	0.00 NTU	74.8 mV	7.14 ft	150.00 ml/min
8/25/2021 12:48 PM	09:00	6.85 pH	68.64 °F	13,683 µS/cm	1.74 mg/L	0.25 NTU	74.8 mV	7.14 ft	150.00 ml/min
8/25/2021 12:51 PM	12:00	6.85 pH	68.85 °F	1,494.4 µS/cm	1.90 mg/L	1.36 NTU	74.4 mV	7.14 ft	150.00 ml/min
8/25/2021 12:54 PM	15:00	6.85 pH	68.88 °F	61.50 µS/cm	1.94 mg/L	1.03 NTU	74.5 mV	7.14 ft	150.00 ml/min
8/25/2021 12:57 PM	18:00	6.85 pH	68.80 °F	10,439 µS/cm	1.84 mg/L	0.29 NTU	75.7 mV	7.14 ft	150.00 ml/min
8/25/2021 1:00 PM	21:00	6.85 pH	68.89 °F	59.35 µS/cm	1.93 mg/L	0.25 NTU	76.7 mV	7.14 ft	150.00 ml/min
8/25/2021 1:03 PM	24:00	6.85 pH	68.91 °F	145.77 µS/cm	1.98 mg/L	0.00 NTU	77.6 mV	7.14 ft	150.00 ml/min
8/25/2021 1:06 PM	27:00	6.85 pH	68.96 °F	231.33 µS/cm	2.06 mg/L	0.00 NTU	78.5 mV	7.14 ft	150.00 ml/min
8/25/2021 1:09 PM	30:00	6.85 pH	69.15 °F	229.79 µS/cm	2.16 mg/L	0.00 NTU	79.5 mV	7.14 ft	150.00 ml/min
8/25/2021 1:12 PM	33:00	6.85 pH	69.43 °F	255.51 µS/cm	2.16 mg/L	0.00 NTU	80.5 mV	7.14 ft	150.00 ml/min

8/25/2021 1:15 PM	36:00	6.85 pH	69.71 °F	232.13 µS/cm	2.18 mg/L	0.00 NTU	81.4 mV	7.14 ft	150.00 ml/min
8/25/2021 1:18 PM	39:00	6.84 pH	69.81 °F	241.88 µS/cm	2.16 mg/L	0.15 NTU	82.4 mV	7.14 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-139R	Sample Time: 1332 Final DTW: 7.14 ft btoc Final RDO: 2.16 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 12:04:20 PM

Project: Edmonds Terminal 3Q21 (6)

Operator Name: JMS

<b>Location Name: MW-143</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.6 ft</b> <b>Top of Screen: 3.5 ft</b> <b>Total Depth: 14.1 ft</b> <b>Initial Depth to Water: 5.44 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 3600 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.8 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

68F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/25/2021 12:04 PM	00:00	6.81 pH	63.14 °F	2.54 µS/cm	9.87 mg/L	-15.9 mV	5.44 ft	150.00 ml/min
8/25/2021 12:07 PM	03:00	6.92 pH	62.54 °F	0.74 µS/cm	10.20 mg/L	22.7 mV	5.44 ft	150.00 ml/min
8/25/2021 12:10 PM	06:00	6.91 pH	62.27 °F	0.83 µS/cm	10.21 mg/L	40.1 mV	5.44 ft	150.00 ml/min
8/25/2021 12:13 PM	09:00	6.88 pH	62.11 °F	0.93 µS/cm	10.18 mg/L	47.3 mV	5.44 ft	150.00 ml/min
8/25/2021 12:16 PM	12:00	6.86 pH	61.97 °F	1.00 µS/cm	10.16 mg/L	51.7 mV	5.44 ft	150.00 ml/min
8/25/2021 12:19 PM	15:00	6.84 pH	61.83 °F	1.00 µS/cm	10.13 mg/L	54.7 mV	5.44 ft	150.00 ml/min
8/25/2021 12:22 PM	18:00	6.82 pH	61.67 °F	1.00 µS/cm	10.11 mg/L	57.0 mV	5.44 ft	150.00 ml/min
8/25/2021 12:25 PM	21:00	6.81 pH	61.52 °F	1.01 µS/cm	10.11 mg/L	59.0 mV	5.44 ft	150.00 ml/min
8/25/2021 12:28 PM	24:00	6.80 pH	61.38 °F	1.03 µS/cm	10.09 mg/L	60.8 mV	5.44 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-143

Sample Time: 1226

Final DTW: 7.24 ft

MW-143-MS and MW-143-MSD collected

Moderate petroleum odor

Slight yellow color

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 9:05:04 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-502</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.46 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.2 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 65 F

## 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 %		
8/25/2021 9:05 AM	00:00	6.39 pH	62.27 °F	267.96 µS/cm	4.93 mg/L	14.62 NTU	122.8 mV	5.46 ft	150.00 ml/min
8/25/2021 9:08 AM	03:00	6.12 pH	62.19 °F	250.89 µS/cm	0.55 mg/L	27.70 NTU	119.1 mV	5.46 ft	150.00 ml/min
8/25/2021 9:11 AM	06:00	6.11 pH	62.09 °F	246.64 µS/cm	0.38 mg/L	4.03 NTU	123.6 mV	5.46 ft	150.00 ml/min
8/25/2021 9:14 AM	09:00	6.12 pH	63.06 °F	246.78 µS/cm	0.23 mg/L	3.62 NTU	125.2 mV	5.46 ft	150.00 ml/min
8/25/2021 9:17 AM	12:00	6.06 pH	63.08 °F	253.67 µS/cm	0.23 mg/L	3.61 NTU	120.2 mV	5.46 ft	150.00 ml/min
8/25/2021 9:20 AM	15:00	6.13 pH	61.98 °F	252.02 µS/cm	0.21 mg/L	4.43 NTU	118.1 mV	5.46 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-502	Sample Time: 0924 Final DTW: 5.64 ft btoc Final RDO: 0.21 mg/L



# Low-Flow Test Report:

Test Date / Time: 8/25/2021 9:42:59 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-503</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.16 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.15 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70

## 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 %		
8/25/2021 9:42 AM	00:00	6.15 pH	67.76 °F	392.92 µS/cm	3.76 mg/L	10.16 NTU	44.8 mV	5.16 ft	150.00 ml/min
8/25/2021 9:45 AM	03:00	6.22 pH	65.12 °F	378.43 µS/cm	0.48 mg/L	0.00 NTU	16.7 mV	5.16 ft	150.00 ml/min
8/25/2021 9:48 AM	06:00	6.22 pH	64.81 °F	378.65 µS/cm	0.33 mg/L	0.00 NTU	6.4 mV	5.16 ft	150.00 ml/min
8/25/2021 9:51 AM	09:00	6.22 pH	65.18 °F	383.52 µS/cm	0.36 mg/L	1.66 NTU	1.6 mV	5.16 ft	150.00 ml/min
8/25/2021 9:54 AM	12:00	6.21 pH	65.01 °F	380.99 µS/cm	0.20 mg/L	0.00 NTU	-2.2 mV	5.16 ft	150.00 ml/min
8/25/2021 9:57 AM	15:00	6.21 pH	64.73 °F	373.94 µS/cm	0.18 mg/L	0.00 NTU	-4.8 mV	5.16 ft	150.00 ml/min
8/25/2021 10:00 AM	18:00	6.22 pH	64.80 °F	374.86 µS/cm	0.19 mg/L	0.00 NTU	-7.7 mV	5.16 ft	150.00 ml/min
8/25/2021 10:03 AM	21:00	6.22 pH	64.90 °F	371.69 µS/cm	0.15 mg/L	0.00 NTU	-10.6 mV	5.16 ft	150.00 ml/min
8/25/2021 10:06 AM	24:00	6.22 pH	64.59 °F	373.81 µS/cm	0.12 mg/L	0.00 NTU	-12.1 mV	5.16 ft	150.00 ml/min
8/25/2021 10:09 AM	27:00	6.22 pH	64.78 °F	377.04 µS/cm	0.15 mg/L	0.00 NTU	-14.9 mV	5.16 ft	150.00 ml/min
8/25/2021 10:12 AM	30:00	6.19 pH	64.32 °F	370.49 µS/cm	0.15 mg/L	0.00 NTU	-15.9 mV	5.16 ft	150.00 ml/min
8/25/2021 10:15 AM	33:00	6.22 pH	64.71 °F	381.13 µS/cm	0.07 mg/L	0.00 NTU	-18.3 mV	5.16 ft	150.00 ml/min

8/25/2021 10:18 AM	36:00	6.22 pH	64.64 °F	377.46 µS/cm	0.08 mg/L	0.00 NTU	-19.8 mV	5.16 ft	150.00 ml/min
8/25/2021 10:21 AM	39:00	6.21 pH	64.43 °F	380.49 µS/cm	0.11 mg/L	0.00 NTU	-20.5 mV	5.16 ft	150.00 ml/min
8/25/2021 10:24 AM	42:00	6.22 pH	64.64 °F	375.75 µS/cm	0.06 mg/L	0.00 NTU	-22.2 mV	5.16 ft	150.00 ml/min
8/25/2021 10:27 AM	45:00	6.20 pH	64.35 °F	392.30 µS/cm	0.06 mg/L	0.00 NTU	-21.4 mV	5.16 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-503	Sample Time: 1024 Final DTW: 5.28 ft btoc Final RDO: 0.06 mg/L
DUP-3	Sample Time:



# Low-Flow Test Report:

Test Date / Time: 8/25/2021 11:14:20 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-504</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.62 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6790 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 72 F

## 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 %		
8/25/2021 11:14 AM	00:00	6.10 pH	72.68 °F	13,891 µS/cm	2.71 mg/L	1.91 NTU	42.7 mV	6.62 ft	150.00 ml/min
8/25/2021 11:17 AM	03:00	6.23 pH	70.74 °F	7,100.4 µS/cm	0.30 mg/L	0.61 NTU	4.5 mV	6.62 ft	150.00 ml/min
8/25/2021 11:20 AM	06:16	6.26 pH	70.26 °F	5,754.3 µS/cm	0.22 mg/L	0.47 NTU	7.1 mV	6.62 ft	150.00 ml/min
8/25/2021 11:23 AM	09:16	6.27 pH	70.15 °F	5,621.6 µS/cm	0.18 mg/L	0.22 NTU	12.7 mV	6.62 ft	150.00 ml/min
8/25/2021 11:26 AM	12:16	6.27 pH	70.03 °F	5,773.3 µS/cm	0.15 mg/L	0.10 NTU	15.9 mV	6.62 ft	150.00 ml/min
8/25/2021 11:29 AM	15:16	6.26 pH	70.02 °F	5,707.7 µS/cm	0.15 mg/L	0.09 NTU	17.8 mV	6.62 ft	150.00 ml/min
8/25/2021 11:32 AM	18:16	6.26 pH	69.99 °F	5,790.5 µS/cm	0.13 mg/L	0.02 NTU	19.6 mV	6.62 ft	150.00 ml/min
8/25/2021 11:35 AM	21:16	6.26 pH	69.75 °F	5,550.3 µS/cm	0.17 mg/L	0.03 NTU	20.9 mV	6.62 ft	150.00 ml/min
8/25/2021 11:38 AM	24:16	6.26 pH	69.99 °F	5,749.5 µS/cm	0.20 mg/L	0.03 NTU	21.2 mV	6.62 ft	150.00 ml/min
8/25/2021 11:41 AM	27:16	6.26 pH	69.86 °F	5,821.5 µS/cm	0.14 mg/L	0.00 NTU	22.3 mV	6.62 ft	150.00 ml/min
8/25/2021 11:44 AM	30:16	6.26 pH	69.68 °F	5,828.8 µS/cm	0.13 mg/L	0.00 NTU	24.0 mV	6.62 ft	150.00 ml/min
8/25/2021 11:47 AM	33:16	6.25 pH	69.79 °F	5,917.3 µS/cm	0.12 mg/L	0.00 NTU	24.3 mV	6.62 ft	150.00 ml/min

8/25/2021 11:50 AM	36:16	6.25 pH	69.77 °F	5,984.3 µS/cm	0.16 mg/L	0.00 NTU	25.1 mV	6.62 ft	150.00 ml/min
8/25/2021 11:53 AM	39:16	6.26 pH	69.69 °F	5,988.6 µS/cm	0.17 mg/L	0.00 NTU	26.1 mV	6.62 ft	150.00 ml/min
8/25/2021 11:56 AM	42:16	6.26 pH	69.62 °F	6,027.8 µS/cm	0.14 mg/L	0.00 NTU	26.4 mV	6.62 ft	150.00 ml/min
8/25/2021 11:59 AM	45:16	6.25 pH	69.78 °F	6,171.3 µS/cm	0.12 mg/L	0.11 NTU	26.8 mV	6.62 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-504	Sample Time: 1204 Final DTW: 6.63 ft btoc Final RDO: 0.14 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 9:46:20 AM

Project: Edmonds Terminal 3Q21 (8)

Operator Name: JMS

<b>Location Name: MW-506</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.7 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 5850 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

59F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/26/2021 9:46 AM	00:00	6.75 pH	65.23 °F	0.17 µS/cm	9.82 mg/L	148.0 mV	6.70 ft	150.00 ml/min
8/26/2021 9:49 AM	03:00	6.70 pH	62.97 °F	8,022.2 µS/cm	0.61 mg/L	-76.2 mV	6.70 ft	150.00 ml/min
8/26/2021 9:52 AM	06:00	6.70 pH	63.23 °F	7,723.1 µS/cm	0.57 mg/L	-83.2 mV	6.70 ft	150.00 ml/min
8/26/2021 9:55 AM	09:00	6.71 pH	63.40 °F	7,481.5 µS/cm	0.47 mg/L	-88.1 mV	6.70 ft	150.00 ml/min
8/26/2021 9:58 AM	12:00	6.71 pH	63.54 °F	7,263.2 µS/cm	0.43 mg/L	-92.2 mV	6.70 ft	150.00 ml/min
8/26/2021 10:01 AM	15:00	6.71 pH	63.61 °F	7,089.3 µS/cm	0.40 mg/L	-95.3 mV	6.70 ft	150.00 ml/min
8/26/2021 10:04 AM	18:00	6.71 pH	63.67 °F	6,898.9 µS/cm	0.38 mg/L	-99.1 mV	6.70 ft	150.00 ml/min
8/26/2021 10:07 AM	21:00	6.71 pH	63.78 °F	6,750.2 µS/cm	0.34 mg/L	-102.1 mV	6.70 ft	150.00 ml/min
8/26/2021 10:10 AM	24:00	6.71 pH	63.87 °F	6,639.1 µS/cm	0.28 mg/L	-105.8 mV	6.70 ft	150.00 ml/min
8/26/2021 10:13 AM	27:00	6.70 pH	63.97 °F	6,553.8 µS/cm	0.23 mg/L	-109.2 mV	6.70 ft	150.00 ml/min
8/26/2021 10:16 AM	30:00	6.70 pH	63.99 °F	6,524.0 µS/cm	0.19 mg/L	-111.4 mV	6.70 ft	150.00 ml/min
8/26/2021 10:19 AM	33:00	6.71 pH	64.10 °F	6,479.2 µS/cm	0.16 mg/L	-113.2 mV	6.70 ft	150.00 ml/min

8/26/2021 10:22 AM	36:00	6.71 pH	64.12 °F	6,428.8 µS/cm	0.15 mg/L	-113.4 mV	6.70 ft	150.00 ml/min
8/26/2021 10:25 AM	39:00	6.71 pH	64.13 °F	6,374.2 µS/cm	0.14 mg/L	-113.0 mV	6.70 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-506	Sample time: 1036 Final DTW: 6.82 ft Slight yellow color.

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 10:54:49 AM

Project: Edmonds Terminal 3Q21 (9)

Operator Name: JMS

<b>Location Name: MW-507</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.85 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

69F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/26/2021 10:54 AM	00:00	7.48 pH	72.03 °F	5.28 µS/cm	9.01 mg/L	60.5 mV	6.85 ft	150.00 ml/min
8/26/2021 10:57 AM	03:00	7.48 pH	72.58 °F	5.10 µS/cm	8.95 mg/L	66.2 mV	6.85 ft	150.00 ml/min
8/26/2021 11:00 AM	06:00	7.47 pH	73.16 °F	4.90 µS/cm	8.91 mg/L	70.3 mV	6.85 ft	150.00 ml/min
8/26/2021 11:03 AM	09:00	7.46 pH	73.57 °F	4.75 µS/cm	8.88 mg/L	73.9 mV	6.85 ft	150.00 ml/min
8/26/2021 11:06 AM	12:00	7.42 pH	73.76 °F	4.73 µS/cm	8.85 mg/L	77.1 mV	6.85 ft	150.00 ml/min
8/26/2021 11:09 AM	15:00	7.39 pH	73.85 °F	4.79 µS/cm	8.87 mg/L	79.8 mV	6.85 ft	150.00 ml/min
8/26/2021 11:12 AM	18:00	7.36 pH	74.01 °F	4.82 µS/cm	8.83 mg/L	82.1 mV	6.85 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-507	Sample time: 1116 Final DTW: 7.15 ft



# Low-Flow Test Report:

Test Date / Time: 8/24/2021 9:49:46 AM

Project: Edmonds Terminal 3Q21

Operator Name: BP

<b>Location Name: MW-509</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 m</b> <b>Top of Screen: 3 m</b> <b>Total Depth: 13 m</b> <b>Initial Depth to Water: 3.56 m</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.17x 1/4</b> <b>Pump Intake From TOC: 7 m</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

Low flow

## Weather Conditions:

Sunny warm

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 10	+/- 10		
8/24/2021 9:49 AM	00:00	6.48 pH	70.11 °F	37,591 µS/cm	2.24 mg/L	1,551.0 NTU	228.9 mV	3.56 m	150.00 ml/min
8/24/2021 9:52 AM	03:00	6.55 pH	71.22 °F	37,008 µS/cm	1.64 mg/L	134.99 NTU	230.5 mV	3.56 m	150.00 ml/min
8/24/2021 9:55 AM	06:00	6.56 pH	71.18 °F	37,414 µS/cm	1.61 mg/L	34.38 NTU	227.6 mV	3.56 m	150.00 ml/min
8/24/2021 9:58 AM	09:00	6.57 pH	71.13 °F	37,076 µS/cm	1.53 mg/L	23.52 NTU	222.8 mV	3.56 m	150.00 ml/min
8/24/2021 10:01 AM	12:00	6.58 pH	69.88 °F	37,753 µS/cm	1.46 mg/L	13.72 NTU	218.5 mV	3.56 m	150.00 ml/min
8/24/2021 10:04 AM	15:00	6.58 pH	70.80 °F	37,533 µS/cm	1.45 mg/L	8.91 NTU	215.3 mV	3.56 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-509	Sample Time : 10:08 Final DTW : 3.57 btoc Final RDO: 1.45 mg/L





# Low-Flow Test Report:

Test Date / Time: 8/25/2021 1:23:50 PM

Project: Edmonds Terminal 3Q21 (7)

Operator Name: JMS

<b>Location Name: MW-511</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.1 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 13 ft</b> <b>Estimated Total Volume Pumped: 4500 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

65F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/25/2021 1:23 PM	00:00	6.70 pH	63.35 °F	1.01 µS/cm	9.76 mg/L	80.2 mV	8.10 ft	150.00 ml/min
8/25/2021 1:26 PM	03:00	6.59 pH	60.83 °F	0.33 µS/cm	10.25 mg/L	90.4 mV	8.10 ft	150.00 ml/min
8/25/2021 1:29 PM	06:00	6.61 pH	59.45 °F	0.36 µS/cm	10.40 mg/L	96.6 mV	8.10 ft	150.00 ml/min
8/25/2021 1:32 PM	09:00	6.63 pH	58.80 °F	0.45 µS/cm	10.44 mg/L	100.8 mV	8.10 ft	150.00 ml/min
8/25/2021 1:35 PM	12:00	6.65 pH	58.36 °F	0.42 µS/cm	10.48 mg/L	104.1 mV	8.10 ft	150.00 ml/min
8/25/2021 1:38 PM	15:00	6.67 pH	58.06 °F	0.31 µS/cm	10.51 mg/L	107.0 mV	8.10 ft	150.00 ml/min
8/25/2021 1:41 PM	18:00	6.67 pH	57.85 °F	0.24 µS/cm	10.52 mg/L	109.6 mV	8.10 ft	150.00 ml/min
8/25/2021 1:44 PM	21:00	6.68 pH	57.70 °F	0.20 µS/cm	10.53 mg/L	111.8 mV	8.10 ft	150.00 ml/min
8/25/2021 1:47 PM	24:00	6.69 pH	57.58 °F	0.18 µS/cm	10.54 mg/L	113.8 mV	8.10 ft	150.00 ml/min
8/25/2021 1:50 PM	27:00	6.69 pH	57.52 °F	0.17 µS/cm	10.53 mg/L	115.5 mV	8.10 ft	150.00 ml/min
8/25/2021 1:53 PM	30:00	6.70 pH	57.54 °F	0.17 µS/cm	10.53 mg/L	117.1 mV	8.10 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-511	Final DTW: 8.14 ft Sample Time: 1356

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 9:49:37 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-512</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.59 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 60

## 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 %		
8/26/2021 9:49 AM	00:00	7.02 pH	65.08 °F	2,323.6 µS/cm	3.66 mg/L	0.09 NTU	-44.9 mV	6.59 ft	150.00 ml/min
8/26/2021 9:52 AM	03:00	6.93 pH	64.95 °F	2,373.0 µS/cm	0.39 mg/L	0.00 NTU	-85.6 mV	6.59 ft	150.00 ml/min
8/26/2021 9:55 AM	06:00	6.93 pH	65.21 °F	2,358.8 µS/cm	0.34 mg/L	0.00 NTU	-97.5 mV	6.59 ft	150.00 ml/min
8/26/2021 9:58 AM	09:00	6.93 pH	65.56 °F	2,346.4 µS/cm	0.21 mg/L	0.00 NTU	-103.7 mV	6.59 ft	150.00 ml/min
8/26/2021 10:01 AM	12:00	6.94 pH	65.69 °F	2,355.8 µS/cm	0.15 mg/L	0.00 NTU	-110.3 mV	6.59 ft	150.00 ml/min
8/26/2021 10:04 AM	15:00	6.91 pH	66.03 °F	2,327.7 µS/cm	0.14 mg/L	0.15 NTU	-111.8 mV	6.59 ft	150.00 ml/min
8/26/2021 10:07 AM	18:00	6.90 pH	66.21 °F	2,225.0 µS/cm	0.15 mg/L	2.19 NTU	-115.2 mV	6.59 ft	150.00 ml/min
8/26/2021 10:10 AM	21:00	6.85 pH	66.51 °F	2,080.9 µS/cm	0.15 mg/L	0.75 NTU	-113.6 mV	6.59 ft	150.00 ml/min
8/26/2021 10:13 AM	24:00	6.76 pH	66.70 °F	1,880.0 µS/cm	0.16 mg/L	2.38 NTU	-108.1 mV	6.59 ft	150.00 ml/min
8/26/2021 10:16 AM	27:00	6.69 pH	66.80 °F	1,708.8 µS/cm	0.25 mg/L	0.89 NTU	-102.8 mV	6.59 ft	150.00 ml/min
8/26/2021 10:19 AM	30:00	6.62 pH	66.89 °F	1,549.6 µS/cm	0.27 mg/L	2.20 NTU	-98.1 mV	6.59 ft	150.00 ml/min
8/26/2021 10:22 AM	33:00	6.60 pH	66.89 °F	1,526.6 µS/cm	0.15 mg/L	1.66 NTU	-98.3 mV	6.59 ft	150.00 ml/min

8/26/2021 10:25 AM	36:00	6.58 pH	66.78 °F	1,483.8 μS/cm	0.17 mg/L	0.00 NTU	-98.5 mV	6.59 ft	150.00 ml/min
8/26/2021 10:28 AM	39:00	6.57 pH	66.88 °F	1,456.7 μS/cm	0.11 mg/L	0.00 NTU	-98.8 mV	6.59 ft	150.00 ml/min
8/26/2021 10:31 AM	42:00	6.56 pH	67.07 °F	1,427.5 μS/cm	0.09 mg/L	3.79 NTU	-98.9 mV	6.59 ft	150.00 ml/min
8/26/2021 10:34 AM	45:00	6.53 pH	67.14 °F	1,436.6 μS/cm	0.10 mg/L	0.00 NTU	-97.7 mV	6.59 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-512	Sample Time: 10:34 Final DTW: 6.59 ft btoc Final RDO: 0.10 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 12:18:19 PM

Project: Edmonds Terminal 3Q21

Operator Name:

<b>Location Name: MW-513</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.42 m</b>	<b>Estimated Total Volume Pumped:</b> <b>5400 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600</b> <b>Vented</b> <b>Serial Number: 466586</b>
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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 %		
8/25/2021 12:18 PM	00:00	7.04 pH	71.57 °F	0.06 µS/cm	9.98 mg/L	0.00 NTU	57.1 mV	4.42 m	150.00 ml/min
8/25/2021 12:21 PM	03:00	6.36 pH	68.50 °F	12,051 µS/cm	1.07 mg/L	0.10 NTU	48.9 mV	4.42 m	150.00 ml/min
8/25/2021 12:24 PM	06:00	6.40 pH	68.84 °F	11,687 µS/cm	0.44 mg/L	0.30 NTU	6.1 mV	4.42 m	150.00 ml/min
8/25/2021 12:27 PM	09:00	6.43 pH	69.23 °F	11,436 µS/cm	0.41 mg/L	0.08 NTU	-12.7 mV	4.42 m	150.00 ml/min
8/25/2021 12:30 PM	12:00	6.44 pH	69.84 °F	11,256 µS/cm	0.34 mg/L	0.25 NTU	-19.9 mV	4.42 m	150.00 ml/min
8/25/2021 12:33 PM	15:00	6.45 pH	69.77 °F	11,131 µS/cm	0.48 mg/L	23.56 NTU	-25.0 mV	4.42 m	150.00 ml/min
8/25/2021 12:36 PM	18:00	6.45 pH	69.49 °F	9,935.3 µS/cm	0.40 mg/L	5.23 NTU	-28.3 mV	4.42 m	150.00 ml/min
8/25/2021 12:39 PM	21:00	6.45 pH	69.77 °F	10,950 µS/cm	0.39 mg/L	8.23 NTU	-29.1 mV	4.42 m	150.00 ml/min
8/25/2021 12:42 PM	24:00	6.46 pH	69.84 °F	11,788 µS/cm	0.20 mg/L	15.13 NTU	-32.2 mV	4.42 m	150.00 ml/min
8/25/2021 12:45 PM	27:00	6.46 pH	69.66 °F	11,758 µS/cm	0.19 mg/L	17.48 NTU	-34.2 mV	4.42 m	150.00 ml/min
8/25/2021 12:48 PM	30:00	6.46 pH	69.60 °F	11,483 µS/cm	0.18 mg/L	18.81 NTU	-36.3 mV	4.42 m	150.00 ml/min
8/25/2021 12:51 PM	33:00	6.46 pH	70.01 °F	11,737 µS/cm	0.17 mg/L	20.99 NTU	-37.5 mV	4.42 m	150.00 ml/min
8/25/2021 12:54 PM	36:00	6.46 pH	70.07 °F	11,639 µS/cm	0.16 mg/L	21.62 NTU	-38.0 mV	4.42 m	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-513

Sample Time : 1258  
Final DTW: 4.42 btoc  
Final RDO : 0.16 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 10:43:54 AM

Project: Edmonds Terminal 3Q21

Operator Name: BP

<b>Location Name: MW-514</b> <b>Well Diameter: 2 ft</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.71 m</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.17 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 m</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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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 %		
8/25/2021 10:43 AM	00:00	6.31 pH	68.72 °F	6,480.0 µS/cm	4.73 mg/L	24.21 NTU	79.2 mV	4.71 m	150.00 ml/min
8/25/2021 10:46 AM	03:00	6.26 pH	65.47 °F	6,172.0 µS/cm	0.45 mg/L	0.00 NTU	39.4 mV	4.71 m	150.00 ml/min
8/25/2021 10:49 AM	06:00	6.26 pH	65.28 °F	4,846.9 µS/cm	0.34 mg/L	1.88 NTU	20.5 mV	4.71 m	150.00 ml/min
8/25/2021 10:52 AM	09:00	6.27 pH	65.58 °F	4,039.7 µS/cm	0.27 mg/L	0.39 NTU	15.2 mV	4.71 m	150.00 ml/min
8/25/2021 10:55 AM	12:00	6.28 pH	65.57 °F	3,564.7 µS/cm	0.25 mg/L	6.00 NTU	15.1 mV	4.71 m	150.00 ml/min
8/25/2021 10:58 AM	15:00	6.29 pH	65.66 °F	3,975.8 µS/cm	0.22 mg/L	7.63 NTU	15.0 mV	4.71 m	150.00 ml/min
8/25/2021 11:01 AM	18:00	6.32 pH	65.72 °F	2,545.6 µS/cm	0.21 mg/L	12.87 NTU	11.0 mV	4.71 m	150.00 ml/min
8/25/2021 11:04 AM	21:00	6.34 pH	65.89 °F	2,497.6 µS/cm	0.21 mg/L	20.78 NTU	10.0 mV	4.71 m	150.00 ml/min
8/25/2021 11:07 AM	24:00	6.34 pH	66.17 °F	2,093.4 µS/cm	0.20 mg/L	33.32 NTU	9.0 mV	4.71 m	150.00 ml/min
8/25/2021 11:10 AM	27:00	6.34 pH	66.13 °F	2,513.1 µS/cm	0.20 mg/L	16.11 NTU	8.2 mV	4.71 m	150.00 ml/min
8/25/2021 11:13 AM	30:00	6.35 pH	66.57 °F	2,428.1 µS/cm	0.20 mg/L	21.71 NTU	6.5 mV	4.71 m	150.00 ml/min
8/25/2021 11:16 AM	33:00	6.36 pH	66.71 °F	2,139.7 µS/cm	0.20 mg/L	21.38 NTU	5.7 mV	4.71 m	150.00 ml/min

8/25/2021 11:19 AM	36:00	6.36 pH	66.87 °F	2,108.5 µS/cm	0.20 mg/L	23.64 NTU	5.1 mV	4.71 m	150.00 ml/min
8/25/2021 11:22 AM	39:00	6.37 pH	66.77 °F	2,089.9 µS/cm	0.20 mg/L	26.78 NTU	4.3 mV	4.71 m	150.00 ml/min
8/25/2021 11:25 AM	42:00	6.25 pH	68.08 °F	4,738.3 µS/cm	0.20 mg/L	1,671.9 NTU	4.6 mV	4.71 m	150.00 ml/min
8/25/2021 11:28 AM	45:00	6.38 pH	67.00 °F	2,844.7 µS/cm	0.23 mg/L	422.21 NTU	0.8 mV	4.71 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-514	Sample time: 1138 Final DTW : 4.73 btoc Final RDO : 0.23 mg/L



# Low-Flow Test Report:

Test Date / Time: 8/24/2021 10:58:50 AM

Project: Edmonds Terminal 3Q21

Operator Name: BP

<b>Location Name: MW-515</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.91 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 8 m</b> <b>Estimated Total Volume Pumped: 7160 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.03 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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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 %		
8/24/2021 10:58 AM	00:00	6.69 pH	72.66 °F	10,985 µS/cm	4.68 mg/L	20.40 NTU	172.9 mV	4.91 ft	150.00 ml/min
8/24/2021 11:01 AM	03:00	6.59 pH	67.97 °F	11,378 µS/cm	1.34 mg/L	0.23 NTU	126.6 mV	4.91 ft	150.00 ml/min
8/24/2021 11:04 AM	06:00	6.60 pH	67.34 °F	11,313 µS/cm	0.70 mg/L	0.15 NTU	115.0 mV	4.91 ft	150.00 ml/min
8/24/2021 11:07 AM	09:00	6.59 pH	67.47 °F	11,275 µS/cm	1.00 mg/L	0.22 NTU	108.6 mV	4.91 ft	150.00 ml/min
8/24/2021 11:10 AM	12:00	6.59 pH	67.57 °F	11,227 µS/cm	0.66 mg/L	0.09 NTU	107.6 mV	4.91 ft	150.00 ml/min
8/24/2021 11:13 AM	14:44	6.59 pH	67.76 °F	11,139 µS/cm	0.68 mg/L	14.03 NTU	56.4 mV	4.91 ft	150.00 ml/min
8/24/2021 11:16 AM	17:44	6.59 pH	67.75 °F	10,873 µS/cm	0.33 mg/L	0.00 NTU	40.0 mV	4.91 ft	150.00 ml/min
8/24/2021 11:19 AM	20:44	6.58 pH	68.01 °F	10,525 µS/cm	0.29 mg/L	0.00 NTU	36.0 mV	4.91 ft	150.00 ml/min
8/24/2021 11:22 AM	23:44	6.57 pH	68.06 °F	10,364 µS/cm	0.25 mg/L	0.00 NTU	35.8 mV	4.91 ft	150.00 ml/min
8/24/2021 11:25 AM	26:44	6.56 pH	68.15 °F	10,259 µS/cm	0.24 mg/L	0.00 NTU	36.4 mV	4.91 ft	150.00 ml/min
8/24/2021 11:28 AM	29:44	6.55 pH	68.13 °F	10,201 µS/cm	0.21 mg/L	0.00 NTU	36.6 mV	4.91 ft	150.00 ml/min
8/24/2021 11:31 AM	32:44	6.55 pH	68.22 °F	10,151 µS/cm	0.21 mg/L	0.00 NTU	37.8 mV	4.91 ft	150.00 ml/min

8/24/2021 11:34 AM	35:44	6.54 pH	68.27 °F	10,137 µS/cm	0.19 mg/L	0.00 NTU	38.8 mV	4.91 ft	150.00 ml/min
8/24/2021 11:37 AM	38:44	6.54 pH	68.14 °F	10,119 µS/cm	0.18 mg/L	0.00 NTU	39.9 mV	4.91 ft	150.00 ml/min
8/24/2021 11:40 AM	41:44	6.53 pH	68.40 °F	10,109 µS/cm	0.17 mg/L	0.00 NTU	40.9 mV	4.91 ft	150.00 ml/min
8/24/2021 11:43 AM	44:44	6.53 pH	68.66 °F	10,107 µS/cm	0.17 mg/L	0.00 NTU	41.8 mV	4.91 ft	150.00 ml/min
8/24/2021 11:46 AM	47:44	6.52 pH	68.73 °F	10,096 µS/cm	0.16 mg/L	7.24 NTU	42.8 mV	4.91 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-515	Sample Time : 11:48 Final DTW : 4.93 btoc Final RDO : 0.16 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 12:41:12 PM

Project: Edmonds Terminal 3Q21

Operator Name: BP

<b>Location Name: MW-516</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.58 ft</b>	<b>Pump Type: Geotech Geopump series 2</b> <b>Tubing Type: Polyethylene 0.17 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 5850 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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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	+/- 10		
8/24/2021 12:41 PM	00:00	6.41 pH	70.07 °F	6,215.4 µS/cm	1.56 mg/L	17.46 NTU	96.4 mV	4.58 ft	150.00 ml/min
8/24/2021 12:44 PM	03:00	6.41 pH	69.29 °F	6,139.5 µS/cm	0.52 mg/L	1.45 NTU	102.2 mV	4.58 ft	150.00 ml/min
8/24/2021 12:47 PM	06:00	6.41 pH	69.59 °F	6,160.2 µS/cm	0.38 mg/L	1.27 NTU	103.0 mV	4.58 ft	150.00 ml/min
8/24/2021 12:50 PM	09:00	6.41 pH	69.97 °F	6,153.4 µS/cm	0.33 mg/L	3.64 NTU	104.0 mV	4.58 ft	150.00 ml/min
8/24/2021 12:53 PM	12:00	6.41 pH	69.72 °F	6,131.2 µS/cm	0.29 mg/L	0.60 NTU	105.2 mV	4.58 ft	150.00 ml/min
8/24/2021 12:56 PM	15:00	6.41 pH	69.81 °F	6,108.7 µS/cm	0.28 mg/L	0.00 NTU	106.0 mV	4.58 ft	150.00 ml/min
8/24/2021 12:59 PM	18:00	6.41 pH	70.45 °F	5,790.4 µS/cm	0.29 mg/L	0.00 NTU	105.4 mV	4.58 ft	150.00 ml/min
8/24/2021 1:02 PM	21:00	6.43 pH	70.25 °F	5,130.7 µS/cm	0.26 mg/L	0.00 NTU	101.7 mV	4.58 ft	150.00 ml/min
8/24/2021 1:05 PM	24:00	6.45 pH	70.62 °F	4,521.3 µS/cm	0.25 mg/L	0.00 NTU	99.2 mV	4.58 ft	150.00 ml/min
8/24/2021 1:08 PM	27:00	6.47 pH	70.88 °F	4,110.2 µS/cm	0.25 mg/L	0.00 NTU	97.9 mV	4.58 ft	150.00 ml/min
8/24/2021 1:11 PM	30:00	6.48 pH	70.71 °F	3,911.7 µS/cm	0.26 mg/L	0.00 NTU	93.2 mV	4.58 ft	150.00 ml/min
8/24/2021 1:14 PM	33:00	6.49 pH	70.43 °F	3,790.0 µS/cm	0.25 mg/L	0.00 NTU	86.0 mV	4.58 ft	150.00 ml/min

8/24/2021 1:17 PM	36:00	6.49 pH	70.57 °F	3,731.8 μS/cm	0.25 mg/L	0.00 NTU	77.6 mV	4.58 ft	150.00 ml/min
8/24/2021 1:20 PM	39:00	6.49 pH	70.81 °F	3,692.2 μS/cm	0.26 mg/L	0.26 NTU	68.0 mV	4.58 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-516	Sample time : 1328 Final DTW : 4.59 ft btoc Final RDO: 0.26 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 9:14:51 AM

Project: Edmonds Terminal 3Q21

Operator Name: BP

<b>Location Name: MW-517</b> <b>Initial Depth to Water: 5.35 m</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.17 x1/4</b> <b>Pump Intake From TOC: 8 m</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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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 %		
8/25/2021 9:14 AM	00:00	6.41 pH	65.10 °F	7,406.1 µS/cm	4.44 mg/L	8.97 NTU	160.4 mV	5.35 m	150.00 ml/min
8/25/2021 9:17 AM	03:00	6.30 pH	66.02 °F	7,470.2 µS/cm	0.79 mg/L	0.28 NTU	133.6 mV	5.35 m	150.00 ml/min
8/25/2021 9:20 AM	06:00	6.30 pH	66.24 °F	7,206.2 µS/cm	0.53 mg/L	0.00 NTU	122.5 mV	5.35 m	150.00 ml/min
8/25/2021 9:23 AM	09:00	6.30 pH	66.65 °F	6,183.3 µS/cm	0.42 mg/L	0.21 NTU	120.3 mV	5.35 m	150.00 ml/min
8/25/2021 9:26 AM	12:00	6.31 pH	66.82 °F	5,226.4 µS/cm	0.41 mg/L	0.03 NTU	121.0 mV	5.35 m	150.00 ml/min
8/25/2021 9:29 AM	15:00	6.34 pH	67.43 °F	4,594.8 µS/cm	0.56 mg/L	0.01 NTU	117.5 mV	5.35 m	150.00 ml/min
8/25/2021 9:32 AM	18:00	6.37 pH	67.54 °F	4,236.1 µS/cm	0.67 mg/L	0.00 NTU	113.7 mV	5.35 m	150.00 ml/min
8/25/2021 9:35 AM	21:00	6.39 pH	67.65 °F	4,015.5 µS/cm	0.62 mg/L	0.00 NTU	107.3 mV	5.35 m	150.00 ml/min
8/25/2021 9:38 AM	24:00	6.40 pH	67.88 °F	3,905.2 µS/cm	0.70 mg/L	0.00 NTU	101.0 mV	5.35 m	150.00 ml/min
8/25/2021 9:41 AM	27:00	6.41 pH	67.85 °F	3,865.3 µS/cm	0.78 mg/L	0.00 NTU	96.6 mV	5.35 m	150.00 ml/min
8/25/2021 9:44 AM	30:00	6.42 pH	67.89 °F	3,842.7 µS/cm	0.66 mg/L	0.00 NTU	92.5 mV	5.35 m	150.00 ml/min
8/25/2021 9:47 AM	33:00	6.41 pH	68.15 °F	3,852.0 µS/cm	0.71 mg/L	0.00 NTU	88.3 mV	5.35 m	150.00 ml/min

8/25/2021 9:50 AM	36:00	6.41 pH	68.26 °F	3,868.4 µS/cm	0.59 mg/L	0.00 NTU	85.1 mV	5.35 m	150.00 ml/min
8/25/2021 9:53 AM	39:00	6.41 pH	68.29 °F	3,904.2 µS/cm	0.57 mg/L	0.00 NTU	83.3 mV	5.35 m	150.00 ml/min
8/25/2021 9:56 AM	42:00	6.41 pH	68.08 °F	3,859.9 µS/cm	0.57 mg/L	0.00 NTU	82.3 mV	5.35 m	150.00 ml/min
8/25/2021 9:59 AM	45:00	6.42 pH	68.17 °F	3,779.4 µS/cm	0.53 mg/L	0.00 NTU	81.6 mV	5.35 m	150.00 ml/min

## Samples

Sample ID:	Description:
MW-517	Sample time: 10:08 Final DTW : 5.36 btoc Final RDO : 0.53 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 8:49:20 AM

Project: Edmonds Terminal 3Q21 (8)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-518</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 12.5 ft</b> <b>Initial Depth to Water: 8.32 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.1 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/26/2021 8:49 AM	00:00	7.00 pH	65.00 °F	1,072.9 µS/cm	4.26 mg/L		41.4 mV	8.32 ft	150.00 ml/min
8/26/2021 8:52 AM	03:00	7.02 pH	65.76 °F	737.77 µS/cm	0.56 mg/L		-13.7 mV	8.32 ft	150.00 ml/min
8/26/2021 8:55 AM	06:00	7.01 pH	65.89 °F	9.00 µS/cm	0.83 mg/L		-31.1 mV	8.32 ft	150.00 ml/min
8/26/2021 8:58 AM	09:00	7.01 pH	65.96 °F	1.06 µS/cm	0.49 mg/L	80.76 NTU	-41.5 mV	8.32 ft	150.00 ml/min
8/26/2021 9:01 AM	12:00	7.02 pH	65.99 °F	1.04 µS/cm	0.46 mg/L	54.33 NTU	-45.0 mV	8.32 ft	150.00 ml/min
8/26/2021 9:04 AM	15:00	7.00 pH	66.05 °F	620.47 µS/cm	0.51 mg/L	84.26 NTU	-45.0 mV	8.32 ft	150.00 ml/min
8/26/2021 9:07 AM	18:00	7.01 pH	66.11 °F	1.30 µS/cm	0.82 mg/L	76.76 NTU	-40.4 mV	8.32 ft	150.00 ml/min
8/26/2021 9:10 AM	21:00	6.99 pH	66.23 °F	41.29 µS/cm	0.35 mg/L	25.90 NTU	-52.3 mV	8.32 ft	150.00 ml/min
8/26/2021 9:13 AM	24:00	6.99 pH	66.27 °F	1.09 µS/cm	0.76 mg/L	88.95 NTU	-53.3 mV	8.32 ft	150.00 ml/min
8/26/2021 9:16 AM	27:00	6.99 pH	66.35 °F	242.20 µS/cm	0.31 mg/L	26.18 NTU	-51.5 mV	8.32 ft	150.00 ml/min
8/26/2021 9:19 AM	30:00	6.99 pH	66.37 °F	3.32 µS/cm	0.48 mg/L	30.84 NTU	-56.9 mV	8.32 ft	150.00 ml/min
8/26/2021 9:22 AM	33:00	7.02 pH	66.42 °F	1.03 µS/cm	0.31 mg/L	65.21 NTU	-48.4 mV	8.32 ft	150.00 ml/min

8/26/2021 9:25 AM	36:00	6.99 pH	66.36 °F	3.85 µS/cm	0.47 mg/L	2.64 NTU	-54.0 mV	8.32 ft	150.00 ml/min
8/26/2021 9:28 AM	39:00	6.98 pH	66.35 °F	20.92 µS/cm	0.43 mg/L	39.34 NTU	-57.4 mV	8.32 ft	150.00 ml/min
8/26/2021 9:31 AM	42:00	6.99 pH	66.34 °F	1.19 µS/cm	0.31 mg/L	34.75 NTU	-56.2 mV	8.32 ft	150.00 ml/min
8/26/2021 9:34 AM	45:00	6.98 pH	66.39 °F	3.57 µS/cm	0.35 mg/L	24.67 NTU	-56.8 mV	8.32 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-518	Sample Time: 0942 Final DTW: 8.42 ft btoc Final RDO: 0.35 mg/L Specific conductivity and RDO did not stabilize after 45 minutes



# Low-Flow Test Report:

**Test Date / Time:** 8/25/2021 12:27:50 PM

**Project:** Edmonds Terminal 3Q21

**Operator Name:** TB

<p><b>Location Name: MW-519</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 6.98 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x1/4</b>  <b>Pump Intake From TOC: 8 ft</b>  <b>Estimated Total Volume Pumped: 6750 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.03 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 697450</b></p>
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**Test Notes:**

**Weather Conditions:**

Sunny, 74 F

**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 %		
8/25/2021 12:27 PM	00:00	6.34 pH	74.00 °F	2,822.4 µS/cm	2.56 mg/L	17.28 NTU	-0.9 mV	6.98 ft	150.00 ml/min
8/25/2021 12:30 PM	03:00	6.39 pH	72.97 °F	2,775.7 µS/cm	0.46 mg/L	8.38 NTU	-32.3 mV	6.98 ft	150.00 ml/min
8/25/2021 12:33 PM	06:00	6.39 pH	72.92 °F	2,775.8 µS/cm	0.33 mg/L	3.55 NTU	-33.5 mV	6.98 ft	150.00 ml/min
8/25/2021 12:36 PM	09:00	6.38 pH	72.77 °F	2,743.0 µS/cm	0.26 mg/L	0.91 NTU	-30.5 mV	6.98 ft	150.00 ml/min
8/25/2021 12:39 PM	12:00	6.37 pH	72.58 °F	2,623.0 µS/cm	0.20 mg/L	0.17 NTU	-27.7 mV	6.98 ft	150.00 ml/min
8/25/2021 12:42 PM	15:00	6.35 pH	72.23 °F	2,433.5 µS/cm	0.18 mg/L	0.10 NTU	-23.5 mV	6.98 ft	150.00 ml/min
8/25/2021 12:45 PM	18:00	6.35 pH	72.50 °F	2,252.9 µS/cm	0.25 mg/L	0.10 NTU	-19.5 mV	6.98 ft	150.00 ml/min
8/25/2021 12:48 PM	21:00	6.34 pH	72.58 °F	2,156.3 µS/cm	0.20 mg/L	0.07 NTU	-14.7 mV	6.98 ft	150.00 ml/min
8/25/2021 12:51 PM	24:00	6.33 pH	72.59 °F	2,108.6 µS/cm	0.28 mg/L	0.13 NTU	-10.4 mV	6.98 ft	150.00 ml/min
8/25/2021 12:54 PM	27:00	6.33 pH	72.75 °F	2,094.3 µS/cm	0.32 mg/L	0.12 NTU	-7.7 mV	6.98 ft	150.00 ml/min
8/25/2021 12:57 PM	30:00	6.30 pH	72.47 °F	2,093.0 µS/cm	0.39 mg/L	0.08 NTU	-4.8 mV	6.98 ft	150.00 ml/min
8/25/2021 1:00 PM	33:00	6.32 pH	72.80 °F	2,042.0 µS/cm	0.32 mg/L	0.09 NTU	-4.4 mV	6.98 ft	150.00 ml/min

8/25/2021 1:03 PM	36:00	6.32 pH	72.73 °F	2,027.9 μS/cm	0.37 mg/L	0.11 NTU	-2.3 mV	6.98 ft	150.00 ml/min
8/25/2021 1:06 PM	39:00	6.32 pH	72.83 °F	2,036.7 μS/cm	0.43 mg/L	0.11 NTU	-1.5 mV	6.98 ft	150.00 ml/min
8/25/2021 1:09 PM	42:00	6.32 pH	72.58 °F	1,994.0 μS/cm	0.36 mg/L	0.05 NTU	-0.7 mV	6.98 ft	150.00 ml/min
8/25/2021 1:12 PM	45:00	6.30 pH	72.37 °F	2,014.7 μS/cm	0.40 mg/L	0.06 NTU	1.7 mV	6.98 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-519	Sample Time: 1314 Final DTW: 6.71 ft btoc Final RDO: 0.37 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 11:05:21 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-520</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.72 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 63 F

## 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 %		
8/26/2021 11:05 AM	00:00	6.31 pH	71.46 °F	3,352.4 µS/cm	3.55 mg/L	0.00 NTU	32.4 mV	7.72 ft	150.00 ml/min
8/26/2021 11:08 AM	03:00	6.29 pH	70.88 °F	3,494.2 µS/cm	0.36 mg/L	0.00 NTU	31.3 mV	7.72 ft	150.00 ml/min
8/26/2021 11:11 AM	06:00	6.28 pH	70.57 °F	3,491.5 µS/cm	0.30 mg/L	0.00 NTU	15.2 mV	7.72 ft	150.00 ml/min
8/26/2021 11:14 AM	09:00	6.28 pH	70.78 °F	3,499.3 µS/cm	0.26 mg/L	0.00 NTU	6.3 mV	7.72 ft	150.00 ml/min
8/26/2021 11:17 AM	12:00	6.28 pH	70.55 °F	3,503.2 µS/cm	0.26 mg/L	0.00 NTU	9.0 mV	7.72 ft	150.00 ml/min
8/26/2021 11:20 AM	15:00	6.27 pH	70.67 °F	3,529.2 µS/cm	0.27 mg/L	0.00 NTU	14.8 mV	7.72 ft	150.00 ml/min
8/26/2021 11:23 AM	18:00	6.27 pH	70.58 °F	3,545.5 µS/cm	0.23 mg/L	0.00 NTU	17.5 mV	7.72 ft	150.00 ml/min
8/26/2021 11:26 AM	21:00	6.27 pH	70.38 °F	3,670.7 µS/cm	0.19 mg/L	0.00 NTU	19.9 mV	7.72 ft	150.00 ml/min
8/26/2021 11:29 AM	24:00	6.27 pH	70.29 °F	3,744.9 µS/cm	0.11 mg/L	0.00 NTU	19.1 mV	7.72 ft	150.00 ml/min
8/26/2021 11:32 AM	27:00	6.27 pH	70.14 °F	3,788.9 µS/cm	0.11 mg/L	0.00 NTU	21.2 mV	7.72 ft	150.00 ml/min
8/26/2021 11:35 AM	30:00	6.27 pH	69.91 °F	3,937.3 µS/cm	0.12 mg/L	0.00 NTU	25.3 mV	7.72 ft	150.00 ml/min
8/26/2021 11:38 AM	33:00	6.29 pH	69.54 °F	4,093.3 µS/cm	0.08 mg/L	0.00 NTU	30.3 mV	7.72 ft	150.00 ml/min

8/26/2021 11:41 AM	36:00	6.26 pH	69.68 °F	3,932.6 µS/cm	0.12 mg/L	0.00 NTU	30.6 mV	7.72 ft	150.00 ml/min
8/26/2021 11:44 AM	39:00	6.28 pH	70.09 °F	3,874.8 µS/cm	0.16 mg/L	0.00 NTU	33.0 mV	7.72 ft	150.00 ml/min
8/26/2021 11:47 AM	42:00	6.28 pH	70.39 °F	3,844.5 µS/cm	0.27 mg/L	0.00 NTU	37.2 mV	7.72 ft	150.00 ml/min
8/26/2021 11:50 AM	45:00	6.27 pH	70.96 °F	3,955.1 µS/cm	0.28 mg/L	0.00 NTU	39.6 mV	7.72 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-520	<p>Sample Time: 11:54</p> <p>Final DTW: 7.70 ft btoc</p> <p>Final RDO: 0.28 mg/L</p> <p>RDO and ORP did not stabilize in 45 minutes.</p>

# Low-Flow Test Report:

Test Date / Time: 8/26/2021 11:31:55 AM

Project: Edmonds Terminal 3Q21 (10)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-521</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.62 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4500 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/26/2021 11:31 AM	00:00	6.39 pH	68.46 °F	3,666.8 µS/cm	4.06 mg/L	7.85 NTU	45.4 mV	6.62 ft	150.00 ml/min
8/26/2021 11:34 AM	03:00	6.47 pH	67.88 °F	3,698.5 µS/cm	0.43 mg/L	197.64 NTU	49.9 mV	6.62 ft	150.00 ml/min
8/26/2021 11:37 AM	06:00	6.48 pH	67.95 °F	3,717.0 µS/cm	0.23 mg/L	453.73 NTU	52.2 mV	6.62 ft	150.00 ml/min
8/26/2021 11:40 AM	09:00	6.47 pH	68.46 °F	3,687.6 µS/cm	0.19 mg/L	466.23 NTU	54.0 mV	6.62 ft	150.00 ml/min
8/26/2021 11:43 AM	12:00	6.47 pH	68.89 °F	3,543.1 µS/cm	0.20 mg/L	95.29 NTU	55.0 mV	6.62 ft	150.00 ml/min
8/26/2021 11:46 AM	15:00	6.45 pH	69.14 °F	3,182.5 µS/cm	0.37 mg/L	78.96 NTU	54.8 mV	6.62 ft	150.00 ml/min
8/26/2021 11:49 AM	18:00	6.45 pH	69.33 °F	3,018.2 µS/cm	0.71 mg/L	327.52 NTU	55.8 mV	6.62 ft	150.00 ml/min
8/26/2021 11:52 AM	21:00	6.44 pH	69.37 °F	2,990.7 µS/cm	0.89 mg/L	171.26 NTU	57.2 mV	6.62 ft	150.00 ml/min
8/26/2021 11:55 AM	24:00	6.44 pH	69.45 °F	2,965.4 µS/cm	1.01 mg/L	0.00 NTU	57.9 mV	6.62 ft	150.00 ml/min
8/26/2021 11:58 AM	27:00	6.44 pH	69.44 °F	2,973.8 µS/cm	1.06 mg/L	204.97 NTU	59.1 mV	6.62 ft	150.00 ml/min
8/26/2021 12:01 PM	30:00	6.43 pH	69.56 °F	2,972.3 µS/cm	1.11 mg/L		60.4 mV	6.62 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-521	Sample Time: 1212 Final DTW: 6.62 ft bgs Final RDO: 1.11 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/25/2021 9:09:04 AM

Project: Edmonds Terminal 3Q21 (4)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-522</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 8.22 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 11 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.1 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/25/2021 9:09 AM	00:00	6.18 pH	64.99 °F	1,539.6 µS/cm	6.11 mg/L	4.87 NTU	145.6 mV	8.22 ft	150.00 ml/min
8/25/2021 9:12 AM	03:00	6.44 pH	62.27 °F	1,563.0 µS/cm	1.94 mg/L	0.95 NTU	118.9 mV	8.22 ft	150.00 ml/min
8/25/2021 9:15 AM	06:00	6.47 pH	62.09 °F	1,560.4 µS/cm	1.47 mg/L	0.00 NTU	111.8 mV	8.22 ft	150.00 ml/min
8/25/2021 9:18 AM	09:00	6.48 pH	62.21 °F	1,550.8 µS/cm	1.10 mg/L	0.00 NTU	108.8 mV	8.22 ft	150.00 ml/min
8/25/2021 9:21 AM	12:00	6.48 pH	62.18 °F	1,548.1 µS/cm	1.40 mg/L	0.00 NTU	106.4 mV	8.22 ft	150.00 ml/min
8/25/2021 9:24 AM	15:00	6.48 pH	62.55 °F	1,467.6 µS/cm	1.61 mg/L	0.00 NTU	103.5 mV	8.22 ft	150.00 ml/min
8/25/2021 9:27 AM	18:00	6.49 pH	62.53 °F	1,458.1 µS/cm	1.45 mg/L	0.00 NTU	101.9 mV	8.22 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-522	Sample Time: 0932 Final DTW: 8.32 ft btoc Final RDO: 1.45 mg/L





# Low-Flow Test Report:

Test Date / Time: 8/23/2021 12:53:07 PM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-525</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.43 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

Final DTW: 9.43 ft

Final RDO: 0.62 mg/L

RDO and ORP did not stabilize after 45 minutes.

## Weather Conditions:

Sunny, 63 F

## 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 %		
8/23/2021 12:53 PM	00:00	5.65 pH	67.89 °F	1,475.1 µS/cm	3.22 mg/L	24.55 NTU	162.6 mV	6.43 ft	150.00 ml/min
8/23/2021 12:56 PM	03:00	5.88 pH	69.33 °F	1,423.9 µS/cm	0.30 mg/L	16.20 NTU	113.6 mV	6.43 ft	150.00 ml/min
8/23/2021 12:59 PM	06:00	5.91 pH	69.90 °F	1,387.9 µS/cm	0.26 mg/L	27.11 NTU	112.0 mV	6.43 ft	150.00 ml/min
8/23/2021 1:02 PM	09:00	5.88 pH	69.65 °F	1,276.2 µS/cm	0.34 mg/L	33.41 NTU	116.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:05 PM	12:00	5.88 pH	69.90 °F	1,326.3 µS/cm	0.84 mg/L	24.42 NTU	95.2 mV	6.43 ft	150.00 ml/min
8/23/2021 1:08 PM	15:00	5.91 pH	70.25 °F	1,305.5 µS/cm	1.04 mg/L	20.83 NTU	85.6 mV	6.43 ft	150.00 ml/min
8/23/2021 1:11 PM	18:00	5.86 pH	69.94 °F	1,288.8 µS/cm	1.11 mg/L	17.81 NTU	72.0 mV	6.43 ft	150.00 ml/min
8/23/2021 1:14 PM	21:00	5.88 pH	69.65 °F	1,334.9 µS/cm	1.24 mg/L	23.53 NTU	55.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:17 PM	24:00	5.91 pH	69.05 °F	1,293.5 µS/cm	1.28 mg/L	31.85 NTU	33.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:20 PM	27:00	5.91 pH	68.78 °F	1,390.2 µS/cm	1.24 mg/L	33.12 NTU	22.9 mV	6.43 ft	150.00 ml/min
8/23/2021 1:23 PM	30:00	5.96 pH	69.21 °F	1,443.8 µS/cm	0.95 mg/L	49.10 NTU	11.3 mV	6.43 ft	150.00 ml/min

8/23/2021 1:26 PM	33:00	5.92 pH	69.22 °F	1,378.6 µS/cm	0.94 mg/L	45.14 NTU	5.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:29 PM	36:00	5.95 pH	68.97 °F	1,414.3 µS/cm	0.86 mg/L	24.74 NTU	0.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:32 PM	39:00	5.96 pH	68.88 °F	1,369.3 µS/cm	0.79 mg/L	19.62 NTU	0.1 mV	6.43 ft	150.00 ml/min
8/23/2021 1:35 PM	42:00	5.94 pH	68.79 °F	1,429.7 µS/cm	0.69 mg/L	23.12 NTU	-3.9 mV	6.43 ft	150.00 ml/min
8/23/2021 1:38 PM	45:00	5.97 pH	68.80 °F	1,411.6 µS/cm	0.62 mg/L	31.75 NTU	-7.6 mV	6.43 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-525	Sample Time: 1354

# Low-Flow Test Report:

**Test Date / Time:** 8/24/2021 8:47:43 AM

**Project:** Edmonds Terminal 3Q21 (2)

**Operator Name:** JMS

<p><b>Location Name: MW-526</b>  <b>Well Diameter: 2 in</b></p> <p><b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 5.66 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b></p> <p><b>Tubing Type: Polyethylene 0.170 x 1/4</b></p> <p><b>Pump Intake From TOC: 7.5 ft</b></p> <p><b>Estimated Total Volume Pumped: 4500 ml</b></p> <p><b>Flow Cell Volume: 130 ml</b></p> <p><b>Final Flow Rate: 150 ml/min</b></p> <p><b>Final Draw Down: 0.34 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b></p> <p><b>Serial Number: 457166</b></p>
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## Test Notes:

## Weather Conditions:

65F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/24/2021 8:47 AM	00:00	5.04 pH	63.80 °F	0.75 µS/cm	10.26 mg/L	235.3 mV	5.66 ft	150.00 ml/min
8/24/2021 8:50 AM	03:00	5.88 pH	66.41 °F	165.39 µS/cm	0.92 mg/L	119.3 mV	5.66 ft	150.00 ml/min
8/24/2021 8:53 AM	06:00	5.87 pH	66.42 °F	170.92 µS/cm	0.66 mg/L	116.4 mV	5.66 ft	150.00 ml/min
8/24/2021 8:56 AM	09:00	5.88 pH	66.69 °F	181.19 µS/cm	0.50 mg/L	125.6 mV	5.66 ft	150.00 ml/min
8/24/2021 8:59 AM	12:00	5.91 pH	66.63 °F	192.04 µS/cm	0.35 mg/L	116.8 mV	5.66 ft	150.00 ml/min
8/24/2021 9:02 AM	15:00	5.93 pH	66.70 °F	202.68 µS/cm	0.28 mg/L	109.9 mV	5.66 ft	150.00 ml/min
8/24/2021 9:05 AM	18:00	5.95 pH	66.62 °F	209.20 µS/cm	0.28 mg/L	104.2 mV	5.66 ft	150.00 ml/min
8/24/2021 9:08 AM	21:00	5.95 pH	66.48 °F	211.19 µS/cm	0.25 mg/L	100.9 mV	5.66 ft	150.00 ml/min
8/24/2021 9:11 AM	24:00	5.94 pH	66.58 °F	211.28 µS/cm	0.22 mg/L	98.3 mV	5.66 ft	150.00 ml/min
8/24/2021 9:14 AM	27:00	5.94 pH	66.84 °F	210.28 µS/cm	0.21 mg/L	92.4 mV	5.66 ft	150.00 ml/min
8/24/2021 9:17 AM	30:00	5.93 pH	66.52 °F	210.14 µS/cm	0.22 mg/L	90.7 mV	5.66 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-526	Sample Time: 0916    Yellow color Final DTW: 6.00-ft    Strong petroleum odor DUP-1 collected

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 11:46:47 AM

Project: Edmonds Terminal 3Q21 (4)

Operator Name: JMS

<b>Location Name: MW-530</b> <b>Well Diameter: 1 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 8 ft</b> <b>Initial Depth to Water: 6.63 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 7.5 ft</b> <b>Estimated Total Volume Pumped: 9000 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.76 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

Sample ID: MW-530

Sample Time: 1246

Parameter ORP did not stabilize.

Low tide at 1245

Very strong sulfur odor

## Weather Conditions:

68F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/24/2021 11:46 AM	00:00	6.02 pH	62.05 °F	33,268 µS/cm	7.65 mg/L	107.2 mV	6.63 ft	150.00 ml/min
8/24/2021 11:49 AM	03:00	6.48 pH	58.85 °F	34,776 µS/cm	2.76 mg/L	11.5 mV	6.63 ft	150.00 ml/min
8/24/2021 11:52 AM	06:00	6.54 pH	58.70 °F	34,548 µS/cm	1.55 mg/L	-38.7 mV	6.63 ft	150.00 ml/min
8/24/2021 11:55 AM	09:00	6.57 pH	58.70 °F	34,179 µS/cm	0.53 mg/L	-71.4 mV	6.63 ft	150.00 ml/min
8/24/2021 11:58 AM	12:00	6.58 pH	58.59 °F	33,961 µS/cm	0.35 mg/L	-106.2 mV	6.63 ft	150.00 ml/min
8/24/2021 12:01 PM	15:00	6.59 pH	58.69 °F	33,582 µS/cm	0.24 mg/L	-149.7 mV	6.63 ft	150.00 ml/min
8/24/2021 12:04 PM	18:00	6.61 pH	58.69 °F	33,236 µS/cm	0.20 mg/L	-169.8 mV	6.63 ft	150.00 ml/min
8/24/2021 12:07 PM	21:00	6.62 pH	58.70 °F	32,869 µS/cm	0.19 mg/L	-183.9 mV	6.63 ft	150.00 ml/min
8/24/2021 12:10 PM	24:00	6.63 pH	58.56 °F	32,410 µS/cm	0.18 mg/L	-196.0 mV	6.63 ft	150.00 ml/min
8/24/2021 12:13 PM	27:00	6.64 pH	58.61 °F	32,092 µS/cm	0.17 mg/L	-205.3 mV	6.63 ft	150.00 ml/min

8/24/2021 12:16 PM	30:00	6.65 pH	58.66 °F	31,704 µS/cm	0.17 mg/L	-214.5 mV	6.63 ft	150.00 ml/min
8/24/2021 12:19 PM	33:00	6.66 pH	58.63 °F	31,473 µS/cm	0.16 mg/L	-220.5 mV	6.63 ft	150.00 ml/min
8/24/2021 12:22 PM	36:00	6.67 pH	58.54 °F	31,243 µS/cm	0.16 mg/L	-226.9 mV	6.63 ft	150.00 ml/min
8/24/2021 12:25 PM	39:00	6.69 pH	58.52 °F	30,884 µS/cm	0.15 mg/L	-231.4 mV	6.63 ft	150.00 ml/min
8/24/2021 12:28 PM	42:00	6.69 pH	58.75 °F	30,701 µS/cm	0.64 mg/L	-229.9 mV	6.63 ft	150.00 ml/min
8/24/2021 12:31 PM	45:00	6.82 pH	59.24 °F	30,478 µS/cm	5.07 mg/L	-215.2 mV	6.63 ft	150.00 ml/min
8/24/2021 12:34 PM	48:00	6.85 pH	58.58 °F	27,236 µS/cm	7.20 mg/L	-213.6 mV	6.63 ft	150.00 ml/min
8/24/2021 12:37 PM	51:00	6.98 pH	59.30 °F	49.70 µS/cm	10.37 mg/L	-171.4 mV	6.63 ft	150.00 ml/min
8/24/2021 12:40 PM	54:00	6.92 pH	59.52 °F	56.74 µS/cm	10.21 mg/L	-171.5 mV	6.63 ft	150.00 ml/min
8/24/2021 12:43 PM	57:00	6.86 pH	59.66 °F	53.97 µS/cm	10.12 mg/L	-168.0 mV	6.63 ft	150.00 ml/min
8/24/2021 12:46 PM	01:00:00	6.80 pH	59.80 °F	53.21 µS/cm	10.04 mg/L	-165.1 mV	6.63 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-530	Sample Time: 1246 Final DTW: 7.39 ft

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 10:09:51 AM

Project: Edmonds Terminal 3Q21 (3)

Operator Name: JMS

<b>Location Name: MW-532</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.23 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 3600 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.2 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 457166</b>
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## Test Notes:

## Weather Conditions:

65F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
8/24/2021 10:09 AM	00:00	5.96 pH	63.13 °F	27.07 µS/cm	7.75 mg/L	106.8 mV	7.23 ft	150.00 ml/min
8/24/2021 10:12 AM	03:00	6.01 pH	61.94 °F	283.75 µS/cm	1.86 mg/L	85.0 mV	7.23 ft	150.00 ml/min
8/24/2021 10:15 AM	06:00	6.00 pH	62.27 °F	278.68 µS/cm	0.70 mg/L	82.3 mV	7.23 ft	150.00 ml/min
8/24/2021 10:18 AM	09:00	5.99 pH	62.63 °F	272.75 µS/cm	0.58 mg/L	82.5 mV	7.23 ft	150.00 ml/min
8/24/2021 10:21 AM	12:00	5.98 pH	62.93 °F	262.19 µS/cm	0.67 mg/L	84.3 mV	7.23 ft	150.00 ml/min
8/24/2021 10:24 AM	15:00	5.97 pH	63.22 °F	257.46 µS/cm	1.18 mg/L	87.9 mV	7.23 ft	150.00 ml/min
8/24/2021 10:27 AM	18:00	5.96 pH	63.38 °F	254.30 µS/cm	1.77 mg/L	91.8 mV	7.23 ft	150.00 ml/min
8/24/2021 10:30 AM	21:00	5.95 pH	63.41 °F	252.77 µS/cm	1.95 mg/L	93.9 mV	7.23 ft	150.00 ml/min
8/24/2021 10:33 AM	24:00	5.94 pH	63.35 °F	256.08 µS/cm	1.82 mg/L	92.0 mV	7.23 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-532

Sample Time: 1036

Final DTW: 8.43 ft

Created using VuSitu from In-Situ, Inc.



# Low-Flow Test Report:

Test Date / Time: 8/24/2021 9:30:27 AM

Project: Edmonds Terminal 3Q21

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-533</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.02 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/24/2021 9:30 AM	00:00	6.47 pH	67.75 °F	0.64 µS/cm	9.02 mg/L		147.7 mV	5.02 ft	150.00 ml/min
8/24/2021 9:33 AM	03:00	6.68 pH	65.23 °F	0.48 µS/cm	8.87 mg/L		147.1 mV	5.02 ft	150.00 ml/min
8/24/2021 9:36 AM	06:00	6.72 pH	64.63 °F	0.46 µS/cm	8.92 mg/L		146.1 mV	5.02 ft	150.00 ml/min
8/24/2021 9:39 AM	09:00	6.74 pH	64.41 °F	0.46 µS/cm	8.93 mg/L	0.00 NTU	145.0 mV	5.02 ft	150.00 ml/min
8/24/2021 9:42 AM	12:00	6.76 pH	64.37 °F	0.47 µS/cm	8.93 mg/L	0.00 NTU	144.3 mV	5.02 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-533	Sample Time: 9:52 Final DTW: 5.04 ft btoc Final RDO: 8.93 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 10:25:45 AM

Project: Edmonds Terminal 3Q21 (2)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-534</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.48 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 6 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/24/2021 10:25 AM	00:00	7.87 pH	69.59 °F	0.42 µS/cm	8.62 mg/L	0.00 NTU	151.5 mV	3.48 ft	150.00 ml/min
8/24/2021 10:28 AM	03:00	8.28 pH	69.55 °F	0.41 µS/cm	8.40 mg/L	0.00 NTU	140.2 mV	3.48 ft	150.00 ml/min
8/24/2021 10:31 AM	06:00	8.19 pH	69.44 °F	0.42 µS/cm	8.41 mg/L	0.00 NTU	132.5 mV	3.48 ft	150.00 ml/min
8/24/2021 10:34 AM	09:00	8.11 pH	69.37 °F	0.41 µS/cm	8.41 mg/L	0.00 NTU	125.8 mV	3.48 ft	150.00 ml/min
8/24/2021 10:37 AM	12:00	8.06 pH	69.25 °F	0.42 µS/cm	8.42 mg/L	0.00 NTU	120.8 mV	3.48 ft	150.00 ml/min
8/24/2021 10:40 AM	15:00	8.00 pH	69.16 °F	0.42 µS/cm	8.42 mg/L	0.00 NTU	115.8 mV	3.48 ft	150.00 ml/min
8/24/2021 10:43 AM	18:00	7.95 pH	69.09 °F	0.42 µS/cm	8.42 mg/L	0.00 NTU	111.7 mV	3.48 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-522	Sample Time 10:52 Final DTW: 3.52 ft btoc Final RDO: 8.42 mg/L



# Low-Flow Test Report:

Test Date / Time: 8/24/2021 12:02:34 PM

Project: Edmonds Terminal 3Q21 (3)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-535</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.9 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.03 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 467545</b>
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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 %		
8/24/2021 12:02 PM	00:00	6.26 pH	68.58 °F	0.41 µS/cm	8.74 mg/L	0.00 NTU	135.0 mV	4.90 ft	150.00 ml/min
8/24/2021 12:05 PM	03:00	6.19 pH	67.64 °F	0.42 µS/cm	8.50 mg/L	0.00 NTU	134.1 mV	4.90 ft	150.00 ml/min
8/24/2021 12:08 PM	06:00	6.23 pH	67.25 °F	0.43 µS/cm	8.55 mg/L	0.00 NTU	135.4 mV	4.90 ft	150.00 ml/min
8/24/2021 12:11 PM	09:00	6.25 pH	66.98 °F	0.42 µS/cm	8.58 mg/L	0.00 NTU	137.1 mV	4.90 ft	150.00 ml/min
8/24/2021 12:14 PM	12:00	6.27 pH	66.81 °F	0.42 µS/cm	8.60 mg/L	0.00 NTU	138.3 mV	4.90 ft	150.00 ml/min
8/24/2021 12:17 PM	15:00	6.28 pH	66.71 °F	0.42 µS/cm	8.61 mg/L	0.00 NTU	139.2 mV	4.90 ft	150.00 ml/min
8/24/2021 12:20 PM	18:00	6.29 pH	66.61 °F	0.41 µS/cm	8.63 mg/L	0.00 NTU	139.9 mV	4.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-535

Sample Time: 1232  
Final DTW: 4.93 ft btoc  
Final RDO: 8.63 mg/L

# Low-Flow Test Report:

Test Date / Time: 8/24/2021 10:47:42 AM

Project: Edmonds Terminal 3Q21

Operator Name: TB

<b>Location Name: MW-ER</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.15 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6802.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.63 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697450</b>
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## Test Notes:

## Weather Conditions:

Sunny, 64

## 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 %		
8/24/2021 10:47 AM	00:00	5.04 pH	67.25 °F	1.60 µS/cm	8.61 mg/L	0.00 NTU	106.3 mV	7.15 ft	150.00 ml/min
8/24/2021 10:50 AM	03:00	4.87 pH	67.40 °F	1.35 µS/cm	8.53 mg/L	0.00 NTU	108.7 mV	7.15 ft	150.00 ml/min
8/24/2021 10:53 AM	06:00	4.87 pH	68.57 °F	3.07 µS/cm	8.38 mg/L	0.00 NTU	105.8 mV	7.15 ft	150.00 ml/min
8/24/2021 10:56 AM	09:00	4.93 pH	69.18 °F	2.41 µS/cm	8.29 mg/L	0.00 NTU	98.3 mV	7.15 ft	150.00 ml/min
8/24/2021 10:59 AM	12:00	4.70 pH	69.79 °F	2.56 µS/cm	8.20 mg/L	0.00 NTU	108.0 mV	7.15 ft	150.00 ml/min
8/24/2021 11:03 AM	15:21	4.78 pH	70.34 °F	5.63 µS/cm	8.12 mg/L	0.00 NTU	105.6 mV	7.15 ft	150.00 ml/min
8/24/2021 11:06 AM	18:21	4.77 pH	70.93 °F	3.84 µS/cm	8.04 mg/L	0.04 NTU	94.5 mV	7.15 ft	150.00 ml/min
8/24/2021 11:09 AM	21:21	4.64 pH	71.42 °F	2.80 µS/cm	7.96 mg/L	0.08 NTU	102.2 mV	7.15 ft	150.00 ml/min
8/24/2021 11:12 AM	24:21	4.64 pH	71.93 °F	2.34 µS/cm	7.89 mg/L	0.14 NTU	95.3 mV	7.15 ft	150.00 ml/min
8/24/2021 11:15 AM	27:21	4.66 pH	72.28 °F	5.36 µS/cm	7.84 mg/L	0.25 NTU	93.0 mV	7.15 ft	150.00 ml/min
8/24/2021 11:18 AM	30:21	4.64 pH	72.56 °F	4.59 µS/cm	7.80 mg/L	0.24 NTU	94.3 mV	7.15 ft	150.00 ml/min
8/24/2021 11:21 AM	33:21	4.58 pH	72.90 °F	3.28 µS/cm	7.76 mg/L	0.26 NTU	90.9 mV	7.15 ft	150.00 ml/min

8/24/2021 11:24 AM	36:21	4.63 pH	73.25 °F	6.09 µS/cm	7.72 mg/L	0.23 NTU	92.7 mV	7.15 ft	150.00 ml/min
8/24/2021 11:27 AM	39:21	4.62 pH	73.45 °F	5.08 µS/cm	7.70 mg/L	0.35 NTU	87.0 mV	7.15 ft	150.00 ml/min
8/24/2021 11:30 AM	42:21	4.57 pH	73.40 °F	3.87 µS/cm	7.68 mg/L	0.38 NTU	92.9 mV	7.15 ft	150.00 ml/min
8/24/2021 11:33 AM	45:21	4.62 pH	73.19 °F	7.67 µS/cm	7.66 mg/L	0.30 NTU	97.9 mV	7.15 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-ER	Sample Time: 1134 Final DTW: 7.69 ft btoc Final RDO: 7.66 mg/L Specific conductance did not stabilize after 45 minutes
DUP-2	Sample Time:

11-05-21

4Q21

Gauging sheet

well	Time	DTW	PID	well	Time	DTW	PID
LM-2	1134	1.84	0.1	MW-109			
MW-8R	1153	8.15	0.0	MW-134x	1052	26.13	0.0
MW-20R	1149	5.58	0.0	MW-135	1105	10.71	0.0
MW-101	1146	7.97	0.0	MW-136	1102	7.84	0.0
MW-104	1147	<del>7.10</del> 7.10	0.0	MW-147	1156	3.47	0.0
MW-129R	1117	5.06	101.9	MW-149R	1200	5.58	0.0
MW-139R	1142	7.43	0.0	MW-150	1204	5.70	0.0
MW-518	1144	7.58	0.0	MW-203	1048	22.35	0.0
MW-522	1151	7.14	0.0	MW-500	1112	3.05	0.0
MW-530	1136	5.92		MW-501	1115	4.74	3.2
MW-533	1140	4.43	0.0	MW-523	1154	6.85	0.0
MW-535	1132	4.19	0.0	MW-524	1158	6.23	0.0
MW-126	1053	4.57	0.0	MW-527	1109	7.75	2.8
MW-143	1055	4.49	0.0	MW-528	1105	8.67	0.0
MW-502	1058	4.87	0.1	MW-151	1207	3.95	0.0
MW-503	1148	4.54	0.2	MW-ER	1120	6.45	0.1
MW-504	1143	5.93	0.0				
MW-505	1104	4.02	0.0	Low tide was at 11:40			
MW-506	1124	6.00	0.0	11-05-21			
MW-507	1127	6.10	0.0				
MW-509	1137	2.88	0.0	MW-109 could not be gauged			
MW-511	1113	7.39	-	due to fallen tree			
MW-512	1119	5.88	-				
MW-513	1126	3.74	0.0	Gauging round recompleted on			
MW-514	1122	4.03	0.1	11-05-21 due to missing wells 11-02-21			
MW-515	1134	4.23	0.0	PID values from 11-02-21			
MW-516	1131	3.90	0.0				
MW-517	1128	4.64	0.0				
MW-519	1049	5.93	0.0				
MW-520	1100	6.63	0.0				
MW-521	1058	5.51	0.0				
MW-525	1106	5.50	0.0				
MW-526	1117	4.66	-				
MW-531	1103	6.56	0.0				
MW-532	1109	6.18	0.0				
MW-534	1130	3.06	0.0				
MW-13u	1045	16.95	0.0				
MW-108	1137	5.10	0.0				



# Low-Flow Test Report:

Test Date / Time: 11/3/2021 9:36:11 AM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: LM-2</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5.5 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 8 ft</b> <b>Initial Depth to Water: 1.42 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 3150 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.3 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Sunny, 52 F

## 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 %		
11/3/2021 9:36 AM	00:00	6.15 pH	60.33 °F	13,764 µS/cm	1.54 mg/L	63.83 NTU	-38.7 mV	1.42 ft	150.00 ml/min
11/3/2021 9:39 AM	03:00	6.11 pH	59.62 °F	13,854 µS/cm	0.54 mg/L	70.00 NTU	-51.5 mV	1.42 ft	150.00 ml/min
11/3/2021 9:42 AM	06:00	6.10 pH	59.55 °F	13,878 µS/cm	0.38 mg/L	79.04 NTU	-56.3 mV	1.42 ft	150.00 ml/min
11/3/2021 9:45 AM	09:00	6.10 pH	59.49 °F	13,893 µS/cm	0.32 mg/L	63.89 NTU	-59.4 mV	1.42 ft	150.00 ml/min
11/3/2021 9:48 AM	12:00	6.10 pH	59.41 °F	13,899 µS/cm	0.31 mg/L	55.12 NTU	-62.0 mV	1.42 ft	150.00 ml/min
11/3/2021 9:51 AM	15:00	6.09 pH	59.41 °F	13,895 µS/cm	0.28 mg/L	38.16 NTU	-63.5 mV	1.42 ft	150.00 ml/min
11/3/2021 9:54 AM	18:00	6.09 pH	59.39 °F	13,900 µS/cm	0.24 mg/L	33.92 NTU	-65.2 mV	1.42 ft	150.00 ml/min
11/3/2021 9:57 AM	21:00	6.08 pH	59.46 °F	13,895 µS/cm	0.24 mg/L	32.68 NTU	-66.9 mV	1.42 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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LM-2

Sample Time: 10:04  
Final DTW: 2.41 ft btoc  
Final RDO: 0.23 mg/L  
Ferrous Iron: 5.5 mg/L

# Low-Flow Test Report:

**Test Date / Time:** 11/1/2021 10:56:30 AM

**Project:** Edmonds Terminal 4Q21

**Operator Name:** Daniel Sly Gilbert

<b>Location Name: MW-8R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.64 ft</b>	<b>Pump Type: Geotechnical Geopump Series 2</b> <b>Tubing Type: Polyethylene</b> <b>Pump Intake From TOC: 10.5 ft</b> <b>Estimated Total Volume Pumped: 5783.333 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/1/2021 10:56 AM	00:00	7.79 pH	57.84 °F	429.07 µS/cm	3.13 mg/L	1.29 NTU	252.6 mV	7.64 ft	200.00 ml/min
11/1/2021 10:59 AM	03:00	7.99 pH	57.80 °F	434.38 µS/cm	2.55 mg/L	1.44 NTU	252.3 mV	7.64 ft	200.00 ml/min
11/1/2021 11:02 AM	06:00	8.06 pH	57.77 °F	421.90 µS/cm	2.37 mg/L	0.63 NTU	245.0 mV	7.64 ft	200.00 ml/min
11/1/2021 11:05 AM	09:00	8.09 pH	57.78 °F	414.49 µS/cm	2.06 mg/L	0.65 NTU	249.3 mV	7.64 ft	200.00 ml/min
11/1/2021 11:08 AM	12:00	8.12 pH	57.76 °F	403.97 µS/cm	1.64 mg/L	0.66 NTU	247.4 mV	7.64 ft	200.00 ml/min
11/1/2021 11:11 AM	15:00	8.08 pH	57.79 °F	402.12 µS/cm	1.48 mg/L	0.96 NTU	245.6 mV	7.64 ft	200.00 ml/min
11/1/2021 11:13 AM	16:55	8.12 pH	57.81 °F	398.99 µS/cm	1.54 mg/L	0.78 NTU	246.0 mV	7.64 ft	200.00 ml/min
11/1/2021 11:16 AM	19:55	8.13 pH	57.77 °F	397.20 µS/cm	1.43 mg/L	0.91 NTU	247.9 mV	7.64 ft	200.00 ml/min
11/1/2021 11:19 AM	22:55	8.14 pH	57.80 °F	398.18 µS/cm	1.21 mg/L	0.89 NTU	246.1 mV	7.64 ft	200.00 ml/min
11/1/2021 11:22 AM	25:55	8.13 pH	57.80 °F	389.62 µS/cm	1.23 mg/L	0.97 NTU	241.9 mV	7.64 ft	200.00 ml/min
11/1/2021 11:25 AM	28:55	8.14 pH	57.86 °F	394.21 µS/cm	1.23 mg/L	0.86 NTU	244.9 mV	7.64 ft	200.00 ml/min

**Samples**

Sample ID:	Description:
MW-8R	Sample Time: 11:52 Final DTW: 7.64 Final RDO: 1.23 mg/L Ferrous Iron 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 12:53:01 PM

Project: Edmonds Terminal 4Q21 (10)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-20R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4 ft</b> <b>Total Depth: 14.5 ft</b> <b>Initial Depth to Water: 6.27 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1350 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.1 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/3/2021 12:53 PM	00:00	6.92 pH	63.00 °F	15,956 µS/cm	6.43 mg/L	4.48 NTU	164.3 mV	6.27 ft	150.00 ml/min
11/3/2021 12:56 PM	03:00	6.57 pH	60.73 °F	16,109 µS/cm	5.11 mg/L	0.00 NTU	199.3 mV	6.27 ft	150.00 ml/min
11/3/2021 12:59 PM	06:00	6.59 pH	60.37 °F	16,142 µS/cm	4.85 mg/L	0.00 NTU	210.8 mV	6.27 ft	150.00 ml/min
11/3/2021 1:02 PM	09:00	6.57 pH	60.14 °F	16,171 µS/cm	4.87 mg/L	0.00 NTU	223.6 mV	6.27 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-20R	Sample Time: 13:12 Final DTW: 6.37 ft btoc Final RDO: 4.87 mg/L Ferrous Iron: 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 1:08:19 PM

Project: Edmonds Terminal 4Q21 (3)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-101</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 8.38 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2250 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.12 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

Rainy

## 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 %		
11/1/2021 1:08 PM	00:00	8.02 pH	58.82 °F	765.95 µS/cm	4.32 mg/L	21.41 NTU	268.4 mV	8.38 ft	150.00 ml/min
11/1/2021 1:11 PM	03:00	7.76 pH	59.99 °F	775.39 µS/cm	3.24 mg/L	9.36 NTU	200.7 mV	8.38 ft	150.00 ml/min
11/1/2021 1:14 PM	06:00	7.75 pH	60.35 °F	809.27 µS/cm	3.43 mg/L	3.24 NTU	109.1 mV	8.38 ft	150.00 ml/min
11/1/2021 1:17 PM	09:00	7.74 pH	60.58 °F	841.16 µS/cm	3.32 mg/L	0.68 NTU	100.2 mV	8.38 ft	150.00 ml/min
11/1/2021 1:20 PM	12:00	7.72 pH	60.72 °F	900.16 µS/cm	3.52 mg/L	1.27 NTU	99.4 mV	8.38 ft	150.00 ml/min
11/1/2021 1:23 PM	15:00	7.70 pH	60.84 °F	924.28 µS/cm	3.27 mg/L	1.80 NTU	91.5 mV	8.38 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-101	Sample Time: 13:42 Final DTW: 8.50 ft btoc Final RDO: 3.27 mg/L Ferrous Iron: 1.0 mg/L
Dup-1	



# Low-Flow Test Report:

**Test Date / Time:** 11/2/2021 10:44:12 AM

**Project:** Edmonds Terminal 4Q21 (4)

**Operator Name:** Daniel Sly Gilbert

<b>Location Name: MW-104</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 5 ft</b> <b>Total Depth: 15 ft</b> <b>Initial Depth to Water: 7.65 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.35 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/2/2021 10:44 AM	00:00	7.56 pH	60.95 °F	329.10 µS/cm	4.47 mg/L	4.83 NTU	320.6 mV	7.65 ft	150.00 ml/min
11/2/2021 10:47 AM	03:00	7.35 pH	60.52 °F	955.41 µS/cm	2.15 mg/L	1.31 NTU	257.6 mV	7.65 ft	150.00 ml/min
11/2/2021 10:50 AM	06:00	7.35 pH	60.32 °F	1,707.5 µS/cm	1.60 mg/L	0.65 NTU	144.7 mV	7.65 ft	150.00 ml/min
11/2/2021 10:53 AM	09:00	7.37 pH	60.21 °F	2,016.7 µS/cm	1.57 mg/L	0.90 NTU	123.7 mV	7.65 ft	150.00 ml/min
11/2/2021 10:56 AM	12:00	7.36 pH	60.14 °F	2,345.2 µS/cm	1.34 mg/L	0.53 NTU	111.4 mV	7.65 ft	150.00 ml/min
11/2/2021 10:59 AM	15:00	7.34 pH	60.07 °F	2,580.9 µS/cm	1.15 mg/L	0.43 NTU	107.5 mV	7.65 ft	150.00 ml/min
11/2/2021 11:02 AM	18:00	7.36 pH	60.00 °F	2,931.4 µS/cm	1.13 mg/L	0.00 NTU	101.4 mV	7.65 ft	150.00 ml/min
11/2/2021 11:05 AM	21:00	7.35 pH	60.06 °F	3,350.4 µS/cm	1.06 mg/L	0.00 NTU	88.4 mV	7.65 ft	150.00 ml/min
11/2/2021 11:08 AM	24:00	7.35 pH	60.06 °F	3,850.3 µS/cm	0.83 mg/L	0.00 NTU	80.6 mV	7.65 ft	150.00 ml/min
11/2/2021 11:11 AM	27:00	7.37 pH	60.05 °F	4,001.6 µS/cm	0.77 mg/L	0.09 NTU	74.4 mV	7.65 ft	150.00 ml/min
11/2/2021 11:14 AM	30:00	7.35 pH	59.99 °F	4,543.1 µS/cm	0.83 mg/L	0.14 NTU	70.5 mV	7.65 ft	150.00 ml/min
11/2/2021 11:17 AM	33:00	7.35 pH	60.05 °F	4,892.2 µS/cm	0.66 mg/L	0.00 NTU	61.8 mV	7.65 ft	150.00 ml/min



11/2/2021 11:20 AM	36:00	7.34 pH	60.07 °F	5,035.8 µS/cm	0.64 mg/L	0.39 NTU	58.2 mV	7.65 ft	150.00 ml/min
11/2/2021 11:23 AM	39:00	7.33 pH	60.00 °F	5,584.9 µS/cm	0.62 mg/L	0.00 NTU	56.5 mV	7.65 ft	150.00 ml/min
11/2/2021 11:26 AM	42:00	7.34 pH	60.03 °F	5,540.1 µS/cm	0.53 mg/L	0.40 NTU	49.5 mV	7.65 ft	150.00 ml/min
11/2/2021 11:29 AM	45:00	7.33 pH	60.05 °F	5,551.1 µS/cm	0.56 mg/L	0.79 NTU	50.7 mV	7.65 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-104	<p>Sample Time: 11:42  Final DTW: 8.00 ft btoc  Final RDO: 0.56 mg/L  Ferrous Iron: 2.5 mg/L</p> <p>RDO did not stabilize after 45 minutes</p>

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 10:47:34 AM

Project: Edmonds Terminal 4Q21

Operator Name: JMS

<b>Location Name: MW-126</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 3.7 ft</b> <b>Total Depth: 14.2 ft</b> <b>Initial Depth to Water: 5.01 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1800 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.29 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

58F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/1/2021 10:47 AM	00:00	6.39 pH	55.79 °F	478.84 µS/cm	7.55 mg/L	128.6 mV	5.01 ft	150.00 ml/min
11/1/2021 10:50 AM	03:00	6.42 pH	54.66 °F	484.45 µS/cm	6.52 mg/L	145.2 mV	5.01 ft	150.00 ml/min
11/1/2021 10:53 AM	06:00	6.43 pH	54.33 °F	484.20 µS/cm	6.57 mg/L	151.6 mV	5.01 ft	150.00 ml/min
11/1/2021 10:56 AM	09:00	6.44 pH	54.11 °F	484.30 µS/cm	6.59 mg/L	163.9 mV	5.01 ft	150.00 ml/min
11/1/2021 10:59 AM	12:00	6.44 pH	54.00 °F	483.99 µS/cm	6.63 mg/L	165.9 mV	5.01 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-126	Sample Time: 1106 Final DTW: 5.30 ft btoc Final RDO: 6.63 mg/L Ferrous Iron: 0



# Low-Flow Test Report:

Test Date / Time: 11/2/2021 10:17:49 AM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-129R</b> <b>Well Diameter: 2 in</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.34 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.29 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 47 F

## 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 %		
11/2/2021 10:17 AM	00:00	4.80 pH	57.23 °F	2,317.9 µS/cm	2.92 mg/L	18.16 NTU	204.7 mV	5.34 ft	150.00 ml/min
11/2/2021 10:20 AM	03:00	4.14 pH	56.84 °F	2,254.1 µS/cm	0.69 mg/L	26.98 NTU	353.7 mV	5.34 ft	150.00 ml/min
11/2/2021 10:23 AM	06:00	4.14 pH	56.51 °F	2,240.4 µS/cm	0.51 mg/L	8.52 NTU	301.2 mV	5.34 ft	150.00 ml/min
11/2/2021 10:26 AM	09:00	4.23 pH	56.50 °F	2,248.2 µS/cm	0.44 mg/L	8.32 NTU	285.9 mV	5.34 ft	150.00 ml/min
11/2/2021 10:29 AM	12:00	4.36 pH	56.45 °F	2,251.6 µS/cm	0.42 mg/L	3.06 NTU	265.0 mV	5.34 ft	150.00 ml/min
11/2/2021 10:32 AM	15:00	4.48 pH	56.39 °F	2,258.0 µS/cm	0.40 mg/L	6.57 NTU	223.1 mV	5.34 ft	150.00 ml/min
11/2/2021 10:35 AM	18:00	4.59 pH	56.45 °F	2,260.0 µS/cm	0.38 mg/L	1.95 NTU	169.2 mV	5.34 ft	150.00 ml/min
11/2/2021 10:38 AM	21:00	4.70 pH	56.42 °F	2,261.7 µS/cm	0.34 mg/L	4.37 NTU	117.4 mV	5.34 ft	150.00 ml/min
11/2/2021 10:41 AM	24:00	4.82 pH	56.47 °F	2,263.6 µS/cm	0.33 mg/L	3.22 NTU	79.7 mV	5.34 ft	150.00 ml/min
11/2/2021 10:44 AM	27:00	4.99 pH	56.39 °F	2,267.1 µS/cm	0.32 mg/L	1.52 NTU	31.5 mV	5.34 ft	150.00 ml/min
11/2/2021 10:47 AM	30:00	5.13 pH	56.39 °F	2,269.9 µS/cm	0.27 mg/L	1.66 NTU	-0.9 mV	5.34 ft	150.00 ml/min
11/2/2021 10:50 AM	33:00	5.21 pH	56.51 °F	2,272.0 µS/cm	0.25 mg/L	0.79 NTU	-25.4 mV	5.34 ft	150.00 ml/min

11/2/2021 10:53 AM	36:00	5.25 pH	56.37 °F	2,273.4 µS/cm	0.24 mg/L	1.18 NTU	-40.6 mV	5.34 ft	150.00 ml/min
11/2/2021 10:56 AM	39:00	5.26 pH	56.46 °F	2,282.2 µS/cm	0.24 mg/L	1.56 NTU	-50.3 mV	5.34 ft	150.00 ml/min
11/2/2021 10:59 AM	42:00	5.29 pH	56.37 °F	2,295.4 µS/cm	0.22 mg/L	2.08 NTU	-57.8 mV	5.34 ft	150.00 ml/min
11/2/2021 11:02 AM	45:00	5.31 pH	56.41 °F	2,302.6 µS/cm	0.20 mg/L	0.91 NTU	-66.1 mV	5.34 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-129R	Sample Time: 11:04 Final DTW: 6.63 ft btoc Final RDO: Ferrous Iron: 4.5 mg/L ORP did not stabilize after 45min

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 9:05:12 AM

Project: Edmonds Terminal 4Q21 (7)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-139R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.5 ft</b> <b>Top of Screen: 4.4 ft</b> <b>Total Depth: 14.9 ft</b> <b>Initial Depth to Water: 6.75 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1540 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/3/2021 9:05 AM	00:00	8.32 pH	59.98 °F	3,438.9 µS/cm	3.19 mg/L	4.36 NTU	203.0 mV	6.75 ft	150.00 ml/min
11/3/2021 9:06 AM	01:16	8.37 pH	59.67 °F	3,234.7 µS/cm	2.70 mg/L	0.09 NTU	198.2 mV	6.75 ft	150.00 ml/min
11/3/2021 9:09 AM	04:16	8.37 pH	59.35 °F	3,028.8 µS/cm	2.43 mg/L	4.97 NTU	199.0 mV	6.75 ft	150.00 ml/min
11/3/2021 9:12 AM	07:16	8.37 pH	59.26 °F	2,920.5 µS/cm	2.44 mg/L	6.60 NTU	196.7 mV	6.75 ft	150.00 ml/min
11/3/2021 9:15 AM	10:16	8.36 pH	59.25 °F	2,903.8 µS/cm	2.49 mg/L	5.71 NTU	194.9 mV	6.75 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-139R	Sample Time: 9:32 Final DTW: 6.75 ft btoc Final RDO: 2.49 mg/L Ferrous Iron: 0.5 mg/L
Dup-3	



# Low-Flow Test Report:

Test Date / Time: 11/1/2021 11:47:34 AM

Project: Edmonds Terminal 4Q21 (2)

Operator Name: JMS

<b>Location Name: MW-143</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10.6 ft</b> <b>Top of Screen: 3.5 ft</b> <b>Total Depth: 14.1 ft</b> <b>Initial Depth to Water: 4.87 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 2.14 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

ORP

## Weather Conditions:

58F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/1/2021 11:47 AM	00:00	6.31 pH	54.63 °F	487.27 µS/cm	6.78 mg/L	33.3 mV	4.87 ft	150.00 ml/min
11/1/2021 11:50 AM	03:00	6.20 pH	55.62 °F	484.03 µS/cm	0.51 mg/L	-21.4 mV	4.87 ft	150.00 ml/min
11/1/2021 11:53 AM	06:00	6.21 pH	55.91 °F	483.33 µS/cm	0.27 mg/L	-36.9 mV	4.87 ft	150.00 ml/min
11/1/2021 11:56 AM	09:00	6.21 pH	55.97 °F	483.69 µS/cm	0.24 mg/L	-51.1 mV	4.87 ft	150.00 ml/min
11/1/2021 11:59 AM	12:00	6.21 pH	56.03 °F	485.89 µS/cm	0.25 mg/L	-56.1 mV	4.87 ft	150.00 ml/min
11/1/2021 12:02 PM	15:00	6.21 pH	56.00 °F	486.72 µS/cm	0.30 mg/L	-64.9 mV	4.87 ft	150.00 ml/min
11/1/2021 12:05 PM	18:00	6.21 pH	56.09 °F	489.03 µS/cm	0.31 mg/L	-67.5 mV	4.87 ft	150.00 ml/min
11/1/2021 12:08 PM	21:00	6.21 pH	56.13 °F	494.13 µS/cm	0.34 mg/L	-70.8 mV	4.87 ft	150.00 ml/min
11/1/2021 12:11 PM	24:00	6.21 pH	56.06 °F	491.51 µS/cm	0.24 mg/L	-72.2 mV	4.87 ft	150.00 ml/min
11/1/2021 12:14 PM	27:00	6.21 pH	56.06 °F	492.83 µS/cm	0.23 mg/L	-78.4 mV	4.87 ft	150.00 ml/min
11/1/2021 12:17 PM	30:00	6.21 pH	56.20 °F	496.02 µS/cm	0.23 mg/L	-77.9 mV	4.87 ft	150.00 ml/min
11/1/2021 12:20 PM	33:00	6.21 pH	56.18 °F	498.69 µS/cm	0.25 mg/L	-82.4 mV	4.87 ft	150.00 ml/min



11/1/2021 12:23 PM	36:00	6.21 pH	56.19 °F	501.77 µS/cm	0.28 mg/L	-80.1 mV	4.87 ft	150.00 ml/min
11/1/2021 12:26 PM	39:00	6.22 pH	56.17 °F	500.72 µS/cm	0.28 mg/L	-83.2 mV	4.87 ft	150.00 ml/min
11/1/2021 12:29 PM	42:00	6.23 pH	56.15 °F	498.34 µS/cm	0.25 mg/L	-82.6 mV	4.87 ft	150.00 ml/min
11/1/2021 12:32 PM	45:00	6.23 pH	56.26 °F	498.58 µS/cm	0.28 mg/L	-84.6 mV	4.87 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-143	Sample Time: 1236 Final DTW: 7.01 ft btoc Final RDO: 0.28 mg/L Ferrous Iron: 7.0 ORP did not stabilize

# Low-Flow Test Report:

Test Date / Time: 11/2/2021 1:13:13 PM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-502</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.94 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 3600 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.5 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Rainy, 50 F

## 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 %		
11/2/2021 1:13 PM	00:00	6.81 pH	55.08 °F	258.18 µS/cm	2.56 mg/L	6.40 NTU	-1.2 mV	4.94 ft	150.00 ml/min
11/2/2021 1:16 PM	03:00	6.50 pH	55.25 °F	254.78 µS/cm	0.61 mg/L	3.01 NTU	46.5 mV	4.94 ft	150.00 ml/min
11/2/2021 1:19 PM	06:00	6.47 pH	55.34 °F	253.21 µS/cm	0.34 mg/L	4.67 NTU	61.1 mV	4.94 ft	150.00 ml/min
11/2/2021 1:22 PM	09:00	6.46 pH	55.45 °F	253.26 µS/cm	0.29 mg/L	4.77 NTU	68.1 mV	4.94 ft	150.00 ml/min
11/2/2021 1:25 PM	12:00	6.46 pH	55.16 °F	252.84 µS/cm	0.25 mg/L	5.70 NTU	72.7 mV	4.94 ft	150.00 ml/min
11/2/2021 1:28 PM	15:00	6.47 pH	55.26 °F	253.24 µS/cm	0.21 mg/L	3.65 NTU	75.5 mV	4.94 ft	150.00 ml/min
11/2/2021 1:31 PM	18:00	6.47 pH	55.55 °F	253.46 µS/cm	0.17 mg/L	3.39 NTU	77.1 mV	4.94 ft	150.00 ml/min
11/2/2021 1:34 PM	21:00	6.46 pH	55.29 °F	253.54 µS/cm	0.15 mg/L	3.18 NTU	79.3 mV	4.94 ft	150.00 ml/min
11/2/2021 1:37 PM	24:00	6.46 pH	55.17 °F	253.21 µS/cm	0.16 mg/L	3.85 NTU	80.6 mV	4.94 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-502

Sample Time: 1344  
Final DTW: 5.14  
Final RDO:  
Ferrous Iron: 0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 1:20:28 PM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-503</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.67 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.03 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 55 F

## 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 %		
11/1/2021 1:20 PM	00:00	10.49 pH	57.01 °F	0.96 µS/cm	10.40 mg/L	0.00 NTU	91.8 mV	4.67 ft	150.00 ml/min
11/1/2021 1:23 PM	03:00	10.53 pH	57.88 °F	0.76 µS/cm	10.18 mg/L	0.00 NTU	92.4 mV	4.67 ft	150.00 ml/min
11/1/2021 1:26 PM	06:00	10.47 pH	58.17 °F	0.47 µS/cm	10.10 mg/L	0.00 NTU	92.7 mV	4.67 ft	150.00 ml/min
11/1/2021 1:29 PM	09:00	10.36 pH	58.38 °F	0.63 µS/cm	10.04 mg/L	0.00 NTU	91.8 mV	4.67 ft	150.00 ml/min
11/1/2021 1:32 PM	12:00	10.21 pH	58.44 °F	0.29 µS/cm	10.03 mg/L	0.00 NTU	89.6 mV	4.67 ft	150.00 ml/min
11/1/2021 1:35 PM	15:00	10.33 pH	58.50 °F	0.35 µS/cm	10.02 mg/L	0.00 NTU	85.6 mV	4.67 ft	150.00 ml/min
11/1/2021 1:38 PM	18:00	10.17 pH	58.59 °F	0.50 µS/cm	9.97 mg/L	0.00 NTU	81.4 mV	4.67 ft	150.00 ml/min
11/1/2021 1:41 PM	21:00	10.06 pH	58.67 °F	0.35 µS/cm	9.96 mg/L	0.29 NTU	78.4 mV	4.67 ft	150.00 ml/min
11/1/2021 1:44 PM	24:00	10.40 pH	58.78 °F	0.45 µS/cm	9.94 mg/L	0.43 NTU	78.6 mV	4.67 ft	150.00 ml/min
11/1/2021 1:47 PM	27:00	10.23 pH	58.86 °F	0.17 µS/cm	9.92 mg/L	1.23 NTU	79.0 mV	4.67 ft	150.00 ml/min
11/1/2021 1:50 PM	30:00	10.01 pH	58.89 °F	0.20 µS/cm	9.90 mg/L	1.05 NTU	78.6 mV	4.67 ft	150.00 ml/min
11/1/2021 1:53 PM	33:00	9.56 pH	58.93 °F	0.27 µS/cm	9.89 mg/L	0.92 NTU	77.4 mV	4.67 ft	150.00 ml/min

11/1/2021 1:56 PM	36:00	10.04 pH	58.90 °F	0.27 µS/cm	9.88 mg/L	1.02 NTU	75.7 mV	4.67 ft	150.00 ml/min
11/1/2021 1:59 PM	39:00	9.77 pH	58.94 °F	0.30 µS/cm	9.86 mg/L	0.74 NTU	73.3 mV	4.67 ft	150.00 ml/min
11/1/2021 2:02 PM	42:00	9.68 pH	58.98 °F	0.15 µS/cm	9.84 mg/L	0.55 NTU	70.3 mV	4.67 ft	150.00 ml/min
11/1/2021 2:05 PM	45:00	10.17 pH	58.95 °F	0.34 µS/cm	9.82 mg/L	0.67 NTU	67.8 mV	4.67 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-503	Sample Time: 1404 Final DTW: 4.77 ft btoc Final RDO: 9.81 mg/L Ferrous Iron: 4.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 12:20:14 PM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-504</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.09 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 3150 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Partly cloudy, 52 F

## 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 %		
11/1/2021 12:20 PM	00:00	7.00 pH	59.20 °F	3.51 µS/cm	10.04 mg/L	0.00 NTU	85.5 mV	6.09 ft	150.00 ml/min
11/1/2021 12:23 PM	03:00	6.99 pH	58.38 °F	2.50 µS/cm	9.88 mg/L	0.00 NTU	84.5 mV	6.09 ft	150.00 ml/min
11/1/2021 12:26 PM	06:00	7.01 pH	58.18 °F	2.81 µS/cm	9.93 mg/L	0.00 NTU	95.0 mV	6.09 ft	150.00 ml/min
11/1/2021 12:29 PM	09:00	7.00 pH	58.05 °F	3.45 µS/cm	9.89 mg/L	0.00 NTU	100.0 mV	6.09 ft	150.00 ml/min
11/1/2021 12:32 PM	12:00	7.04 pH	58.03 °F	3.71 µS/cm	9.90 mg/L	0.00 NTU	102.5 mV	6.09 ft	150.00 ml/min
11/1/2021 12:35 PM	15:00	9.68 pH	57.99 °F	3.07 µS/cm	9.88 mg/L	0.00 NTU	103.3 mV	6.09 ft	150.00 ml/min
11/1/2021 12:38 PM	18:00	10.01 pH	57.85 °F	3.00 µS/cm	9.90 mg/L	0.00 NTU	104.4 mV	6.09 ft	150.00 ml/min
11/1/2021 12:41 PM	21:00	10.17 pH	57.69 °F	3.13 µS/cm	9.92 mg/L	0.00 NTU	103.4 mV	6.09 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-504

Sample Time: 12:44  
Final DTW: 6.10 ft btoc  
Final RDO: 9.91 mg/L  
Ferrous Iron: 0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 10:58:17 AM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-505</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.19 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 4500 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Partly cloudy, 50 F

## 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 %		
11/1/2021 10:58 AM	00:00	7.16 pH	59.07 °F	9.36 µS/cm	9.81 mg/L	0.00 NTU	80.7 mV	4.19 ft	150.00 ml/min
11/1/2021 11:01 AM	03:00	7.22 pH	59.58 °F	5.42 µS/cm	9.76 mg/L	0.00 NTU	72.3 mV	4.19 ft	150.00 ml/min
11/1/2021 11:04 AM	06:00	7.20 pH	59.73 °F	4.32 µS/cm	9.71 mg/L	0.00 NTU	69.4 mV	4.19 ft	150.00 ml/min
11/1/2021 11:07 AM	09:00	7.19 pH	59.86 °F	4.24 µS/cm	9.65 mg/L	0.00 NTU	72.7 mV	4.19 ft	150.00 ml/min
11/1/2021 11:10 AM	12:00	7.16 pH	59.90 °F	3.75 µS/cm	9.65 mg/L	0.00 NTU	75.5 mV	4.19 ft	150.00 ml/min
11/1/2021 11:13 AM	15:00	7.14 pH	59.98 °F	4.27 µS/cm	9.63 mg/L	0.00 NTU	72.1 mV	4.19 ft	150.00 ml/min
11/1/2021 11:16 AM	18:00	7.12 pH	60.08 °F	4.08 µS/cm	9.61 mg/L	0.00 NTU	71.6 mV	4.19 ft	150.00 ml/min
11/1/2021 11:19 AM	21:00	7.11 pH	60.17 °F	2.95 µS/cm	9.58 mg/L	0.00 NTU	72.2 mV	4.19 ft	150.00 ml/min
11/1/2021 11:22 AM	24:00	7.09 pH	60.24 °F	3.27 µS/cm	9.57 mg/L	0.00 NTU	72.5 mV	4.19 ft	150.00 ml/min
11/1/2021 11:25 AM	27:00	7.07 pH	60.30 °F	2.98 µS/cm	9.54 mg/L	0.00 NTU	72.9 mV	4.19 ft	150.00 ml/min
11/1/2021 11:28 AM	30:00	7.05 pH	60.38 °F	3.00 µS/cm	9.53 mg/L	0.00 NTU	69.8 mV	4.19 ft	150.00 ml/min



**Samples**

Sample ID:	Description:
MW-505	Sample Time: 11:34 Final DTW: 4.23 ft btoc Final RDO: 9.52 mg/L Ferrous Iron: 3.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 10:59:40 AM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-506</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.3 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 4950 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.05 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Partly cloudy, 55 F

## 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 %		
11/3/2021 10:59 AM	00:00	7.11 pH	59.15 °F	2,222.7 µS/cm	1.12 mg/L	5.21 NTU	-37.5 mV	6.30 ft	150.00 ml/min
11/3/2021 11:02 AM	03:00	7.08 pH	59.23 °F	2,226.3 µS/cm	0.68 mg/L	17.35 NTU	-22.9 mV	6.30 ft	150.00 ml/min
11/3/2021 11:05 AM	06:00	7.04 pH	59.43 °F	2,331.3 µS/cm	0.57 mg/L	2.62 NTU	-14.1 mV	6.30 ft	150.00 ml/min
11/3/2021 11:08 AM	09:00	7.01 pH	59.28 °F	2,368.9 µS/cm	0.53 mg/L	1.12 NTU	-8.8 mV	6.30 ft	150.00 ml/min
11/3/2021 11:11 AM	12:00	6.99 pH	59.10 °F	2,374.2 µS/cm	0.50 mg/L	1.58 NTU	-9.0 mV	6.30 ft	150.00 ml/min
11/3/2021 11:14 AM	15:00	6.98 pH	59.14 °F	2,434.9 µS/cm	0.52 mg/L	0.53 NTU	-11.8 mV	6.30 ft	150.00 ml/min
11/3/2021 11:17 AM	18:00	6.97 pH	59.27 °F	2,549.4 µS/cm	0.50 mg/L	1.02 NTU	-16.8 mV	6.30 ft	150.00 ml/min
11/3/2021 11:20 AM	21:00	6.96 pH	59.45 °F	2,701.7 µS/cm	0.49 mg/L	0.00 NTU	-20.9 mV	6.30 ft	150.00 ml/min
11/3/2021 11:23 AM	24:00	6.96 pH	59.47 °F	2,674.7 µS/cm	0.50 mg/L	0.00 NTU	-25.8 mV	6.30 ft	150.00 ml/min
11/3/2021 11:26 AM	27:00	6.96 pH	59.52 °F	2,679.4 µS/cm	0.49 mg/L	0.00 NTU	-28.8 mV	6.30 ft	150.00 ml/min
11/3/2021 11:29 AM	30:00	6.98 pH	59.60 °F	2,596.9 µS/cm	0.50 mg/L	0.00 NTU	-32.5 mV	6.30 ft	150.00 ml/min
11/3/2021 11:32 AM	33:00	6.99 pH	59.53 °F	2,471.3 µS/cm	0.53 mg/L	0.00 NTU	-35.6 mV	6.30 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-506	Sample Time: 11:34 Final DTW: 6.35 Final RDO: 0.55 mg/L Ferrous Iron: 0.5 mg/L
MW-506-MS	Sample Time: 11:34
MW-506-MSD	Sample time: 11:34

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 12:53:20 PM

Project: Edmonds Terminal 4Q21

Operator Name: TB

<b>Location Name: MW-507</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.44 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.04 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466689</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 57 F

## 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 %		
11/3/2021 12:53 PM	00:00	7.17 pH	61.90 °F	1,010.7 µS/cm	5.56 mg/L	10.74 NTU	-23.9 mV	6.44 ft	150.00 ml/min
11/3/2021 12:56 PM	03:00	6.97 pH	61.33 °F	866.05 µS/cm	3.65 mg/L	1.56 NTU	20.3 mV	6.44 ft	150.00 ml/min
11/3/2021 12:59 PM	06:00	6.93 pH	61.23 °F	840.51 µS/cm	3.41 mg/L	3.42 NTU	44.4 mV	6.44 ft	150.00 ml/min
11/3/2021 1:02 PM	09:00	6.92 pH	61.25 °F	833.77 µS/cm	3.18 mg/L	1.70 NTU	63.8 mV	6.44 ft	150.00 ml/min
11/3/2021 1:05 PM	12:00	6.91 pH	61.09 °F	832.90 µS/cm	2.95 mg/L	0.48 NTU	75.7 mV	6.44 ft	150.00 ml/min
11/3/2021 1:08 PM	15:00	6.91 pH	60.80 °F	833.18 µS/cm	2.83 mg/L	0.14 NTU	82.9 mV	6.44 ft	150.00 ml/min
11/3/2021 1:11 PM	18:00	6.90 pH	60.79 °F	833.98 µS/cm	2.69 mg/L	0.00 NTU	87.1 mV	6.44 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-507

Sample Time: 13:14  
Final DTW: 6.67 ft btoc  
Final RDO: 2.68 mg/L  
Ferrous Iron: 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 10:16:38 AM

Project: Edmonds Terminal 4Q21 (8)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-509</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.2 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 6 ft</b> <b>Estimated Total Volume Pumped: 4050 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/3/2021 10:16 AM	00:00	8.32 pH	59.48 °F	1,300.6 µS/cm	4.52 mg/L	1.11 NTU	215.3 mV	3.20 ft	150.00 ml/min
11/3/2021 10:19 AM	03:00	7.96 pH	59.96 °F	1,579.9 µS/cm	1.93 mg/L	0.00 NTU	217.4 mV	3.20 ft	150.00 ml/min
11/3/2021 10:22 AM	06:00	7.96 pH	60.04 °F	1,609.6 µS/cm	2.24 mg/L	0.00 NTU	212.7 mV	3.20 ft	150.00 ml/min
11/3/2021 10:25 AM	09:00	7.97 pH	60.13 °F	1,567.8 µS/cm	2.30 mg/L	0.00 NTU	210.0 mV	3.20 ft	150.00 ml/min
11/3/2021 10:28 AM	12:00	7.97 pH	60.26 °F	1,865.7 µS/cm	2.56 mg/L	0.00 NTU	172.4 mV	3.20 ft	150.00 ml/min
11/3/2021 10:31 AM	15:00	7.95 pH	60.26 °F	1,668.8 µS/cm	2.54 mg/L	0.00 NTU	151.7 mV	3.20 ft	150.00 ml/min
11/3/2021 10:34 AM	18:00	8.02 pH	60.25 °F	1,371.2 µS/cm	2.61 mg/L	0.00 NTU	146.9 mV	3.20 ft	150.00 ml/min
11/3/2021 10:37 AM	21:00	7.99 pH	60.27 °F	1,584.5 µS/cm	2.68 mg/L	0.00 NTU	129.0 mV	3.20 ft	150.00 ml/min
11/3/2021 10:40 AM	24:00	7.99 pH	60.34 °F	1,543.2 µS/cm	2.63 mg/L	0.00 NTU	130.5 mV	3.20 ft	150.00 ml/min
11/3/2021 10:43 AM	27:00	8.00 pH	60.44 °F	1,679.2 µS/cm	2.68 mg/L	0.00 NTU	125.9 mV	3.20 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-509	Sample Time: 10:52 Final DTW: 3.20 ft btoc Final RDO: 2.68 mg/L Ferrous Iron: 0.0 mg/L

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# Low-Flow Test Report:

**Test Date / Time:** 11/3/2021 1:01:59 PM

**Project:** Edmonds Terminal 4Q21 (10)

**Operator Name:** JMS

<p><b>Location Name: MW-511</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 5 ft</b>  <b>Total Depth: 15 ft</b>  <b>Initial Depth to Water: 7.51 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 10 ft</b>  <b>Estimated Total Volume Pumped: 2250 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.02 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 466619</b></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 %		
11/3/2021 1:01 PM	00:00	6.38 pH	60.71 °F	304.59 µS/cm	7.28 mg/L	124.5 mV	7.51 ft	150.00 ml/min
11/3/2021 1:04 PM	03:00	6.05 pH	57.40 °F	272.12 µS/cm	3.98 mg/L	151.4 mV	7.51 ft	150.00 ml/min
11/3/2021 1:07 PM	06:00	6.03 pH	56.77 °F	273.11 µS/cm	3.85 mg/L	156.0 mV	7.51 ft	150.00 ml/min
11/3/2021 1:10 PM	09:00	6.05 pH	56.49 °F	272.42 µS/cm	3.82 mg/L	163.2 mV	7.51 ft	150.00 ml/min
11/3/2021 1:13 PM	12:00	6.06 pH	56.26 °F	273.35 µS/cm	3.80 mg/L	175.0 mV	7.51 ft	150.00 ml/min
11/3/2021 1:16 PM	15:00	6.05 pH	56.22 °F	272.66 µS/cm	3.82 mg/L	170.2 mV	7.51 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-511	Sample Time: 1326Final DTW: 7.53 ft btoc Ferrous Iron: 0.0 Final RDO: 3.82 mg/L



# Low-Flow Test Report:

**Test Date / Time:** 11/3/2021 1:30:09 PM

**Project:** Edmonds Terminal 4Q21

**Operator Name:** MDA

<p><b>Location Name:</b> MW-512  <b>Well Diameter:</b> 2 in  <b>Casing Type:</b> PVC  <b>Screen Length:</b> 10 ft  <b>Top of Screen:</b> 3 ft  <b>Total Depth:</b> 13 ft  <b>Initial Depth to Water:</b> 6.22 ft</p>	<p><b>Pump Type:</b> Geotech geopump  <b>Series 2</b>  <b>Tubing Type:</b> Polyethylene 0.170  <b>x 1/4</b>  <b>Pump Intake From TOC:</b> 9 ft  <b>Estimated Total Volume Pumped:</b>  <b>5400 ml</b>  <b>Flow Cell Volume:</b> 130 ml  <b>Final Flow Rate:</b> 150 ml/min  <b>Final Draw Down:</b> 0.01 ft</p>	<p><b>Instrument Used:</b> Aqua TROLL 600  <b>Vented</b>  <b>Serial Number:</b> 466586</p>
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## Test Notes:

## Weather Conditions:

Cloudy, 55 F, no wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 1:30 PM	00:00	7.62 pH	63.43 °F	143.19 µS/cm	8.41 mg/L	7.6 mV	6.22 ft	150.00 ml/min
11/3/2021 1:33 PM	03:00	7.04 pH	60.62 °F	2,156.6 µS/cm	0.42 mg/L	-62.4 mV	6.22 ft	150.00 ml/min
11/3/2021 1:36 PM	06:00	7.03 pH	60.56 °F	1,898.4 µS/cm	0.32 mg/L	-70.8 mV	6.22 ft	150.00 ml/min
11/3/2021 1:39 PM	09:00	7.02 pH	60.49 °F	1,800.9 µS/cm	0.28 mg/L	-72.8 mV	6.22 ft	150.00 ml/min
11/3/2021 1:42 PM	12:00	7.00 pH	60.50 °F	1,790.2 µS/cm	0.23 mg/L	-69.8 mV	6.22 ft	150.00 ml/min
11/3/2021 1:45 PM	15:00	6.99 pH	60.32 °F	1,763.2 µS/cm	0.32 mg/L	-70.2 mV	6.22 ft	150.00 ml/min
11/3/2021 1:48 PM	18:00	6.98 pH	60.21 °F	1,754.3 µS/cm	0.61 mg/L	-68.8 mV	6.22 ft	150.00 ml/min
11/3/2021 1:51 PM	21:00	6.96 pH	60.19 °F	1,755.8 µS/cm	1.74 mg/L	-67.7 mV	6.22 ft	150.00 ml/min
11/3/2021 1:54 PM	24:00	6.95 pH	60.22 °F	1,766.2 µS/cm	2.11 mg/L	-68.1 mV	6.22 ft	150.00 ml/min
11/3/2021 1:57 PM	27:00	6.94 pH	60.33 °F	1,785.1 µS/cm	2.26 mg/L	-68.1 mV	6.22 ft	150.00 ml/min
11/3/2021 2:00 PM	30:00	6.93 pH	60.25 °F	1,809.4 µS/cm	1.86 mg/L	-67.7 mV	6.22 ft	150.00 ml/min
11/3/2021 2:03 PM	33:00	6.92 pH	60.27 °F	1,817.8 µS/cm	1.87 mg/L	-67.2 mV	6.22 ft	150.00 ml/min

11/3/2021 2:06 PM	36:00	6.92 pH	60.34 °F	1,836.1 µS/cm	1.74 mg/L	-66.4 mV	6.22 ft	150.00 ml/min
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## Samples

Sample ID:	Description:
MW-512	Sample Time: 14:08 Final DTW: 6.23 ft btoc Final RDO: 1.74 mg/L Ferrous Iron: 2.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 11:13:49 AM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-513</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.89 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4500 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Cloudy, cool 45 to 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 %		
11/1/2021 11:13 AM	00:00	6.55 pH	59.67 °F	10,177 µS/cm	3.76 mg/L	36.8 mV	3.89 ft	150.00 ml/min
11/1/2021 11:16 AM	03:00	6.72 pH	59.35 °F	8,865.2 µS/cm	0.35 mg/L	-2.9 mV	3.89 ft	150.00 ml/min
11/1/2021 11:19 AM	06:00	6.75 pH	59.15 °F	7,510.4 µS/cm	0.25 mg/L	-6.4 mV	3.89 ft	150.00 ml/min
11/1/2021 11:22 AM	09:00	6.74 pH	59.12 °F	6,738.0 µS/cm	0.26 mg/L	-3.3 mV	3.89 ft	150.00 ml/min
11/1/2021 11:25 AM	12:00	6.74 pH	59.31 °F	6,674.3 µS/cm	0.38 mg/L	1.3 mV	3.89 ft	150.00 ml/min
11/1/2021 11:28 AM	15:00	6.74 pH	59.57 °F	6,706.6 µS/cm	0.58 mg/L	4.5 mV	3.89 ft	150.00 ml/min
11/1/2021 11:31 AM	18:00	6.75 pH	59.19 °F	7,050.5 µS/cm	0.77 mg/L	6.5 mV	3.89 ft	150.00 ml/min
11/1/2021 11:34 AM	21:00	6.74 pH	59.43 °F	7,277.8 µS/cm	0.88 mg/L	5.9 mV	3.89 ft	150.00 ml/min
11/1/2021 11:37 AM	24:00	6.74 pH	59.11 °F	7,204.7 µS/cm	0.95 mg/L	5.0 mV	3.89 ft	150.00 ml/min
11/1/2021 11:40 AM	27:00	6.75 pH	59.01 °F	7,436.4 µS/cm	1.00 mg/L	5.2 mV	3.89 ft	150.00 ml/min
11/1/2021 11:43 AM	30:00	6.75 pH	59.32 °F	7,248.5 µS/cm	1.05 mg/L	5.4 mV	3.89 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-513	Sample Time: 11:44 am Final DTW: 3.90 ft btoc Final RDO: 1.05 mg/L Ferrous Iron: 2.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/1/2021 12:46:53 PM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-514</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.20 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4950 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.02 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Light Rain 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 %		
11/1/2021 12:46 PM	00:00	6.69 pH	59.33 °F	2,145.6 µS/cm	0.77 mg/L	98.4 mV	4.20 ft	150.00 ml/min
11/1/2021 12:49 PM	03:00	6.67 pH	59.19 °F	2,106.5 µS/cm	0.24 mg/L	89.1 mV	4.20 ft	150.00 ml/min
11/1/2021 12:52 PM	06:00	6.66 pH	59.30 °F	2,080.4 µS/cm	0.21 mg/L	77.6 mV	4.20 ft	150.00 ml/min
11/1/2021 12:55 PM	09:00	6.66 pH	59.26 °F	2,095.4 µS/cm	0.18 mg/L	68.3 mV	4.20 ft	150.00 ml/min
11/1/2021 12:58 PM	12:00	6.65 pH	59.13 °F	2,109.6 µS/cm	0.17 mg/L	62.7 mV	4.20 ft	150.00 ml/min
11/1/2021 1:01 PM	15:00	6.64 pH	59.16 °F	2,203.7 µS/cm	0.15 mg/L	58.7 mV	4.20 ft	150.00 ml/min
11/1/2021 1:04 PM	18:00	6.64 pH	58.68 °F	2,378.7 µS/cm	0.13 mg/L	50.6 mV	4.20 ft	150.00 ml/min
11/1/2021 1:07 PM	21:00	6.71 pH	58.73 °F	2,493.1 µS/cm	1.56 mg/L	46.8 mV	4.20 ft	150.00 ml/min
11/1/2021 1:10 PM	24:00	6.66 pH	59.04 °F	2,601.3 µS/cm	0.12 mg/L	64.5 mV	4.20 ft	150.00 ml/min
11/1/2021 1:13 PM	27:00	6.64 pH	59.30 °F	2,752.5 µS/cm	0.10 mg/L	72.8 mV	4.20 ft	150.00 ml/min
11/1/2021 1:16 PM	30:00	6.63 pH	59.09 °F	2,812.4 µS/cm	0.09 mg/L	76.5 mV	4.20 ft	150.00 ml/min
11/1/2021 1:19 PM	33:00	6.62 pH	59.36 °F	2,878.9 µS/cm	0.09 mg/L	78.0 mV	4.20 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-514	Sample Time 13:28 Final DTW: 4.22 ft btoc Final RDO: 0.09 mg/L Ferrous Iron: 1.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/2/2021 12:48:41 PM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-515</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.52 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 5400 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Rainy, 50 F, no wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/2/2021 12:48 PM	00:00	6.39 pH	57.36 °F	11,826 µS/cm	9.83 mg/L	194.1 mV	4.00 ft	150.00 ml/min
11/2/2021 12:51 PM	03:00	6.90 pH	60.49 °F	11,473 µS/cm	0.33 mg/L	91.3 mV	4.00 ft	150.00 ml/min
11/2/2021 12:54 PM	06:00	6.92 pH	60.54 °F	11,225 µS/cm	0.23 mg/L	75.0 mV	4.00 ft	150.00 ml/min
11/2/2021 12:57 PM	09:00	6.94 pH	59.35 °F	11,019 µS/cm	0.33 mg/L	72.3 mV	4.00 ft	150.00 ml/min
11/2/2021 1:00 PM	12:00	6.94 pH	58.91 °F	10,982 µS/cm	0.35 mg/L	68.2 mV	4.00 ft	150.00 ml/min
11/2/2021 1:03 PM	15:00	6.94 pH	58.32 °F	10,967 µS/cm	0.43 mg/L	64.7 mV	4.00 ft	150.00 ml/min
11/2/2021 1:06 PM	18:00	6.95 pH	58.69 °F	10,975 µS/cm	0.25 mg/L	61.2 mV	4.00 ft	150.00 ml/min
11/2/2021 1:09 PM	21:00	6.95 pH	58.66 °F	10,983 µS/cm	0.28 mg/L	58.8 mV	4.00 ft	150.00 ml/min
11/2/2021 1:12 PM	24:00	6.95 pH	59.16 °F	10,980 µS/cm	0.22 mg/L	56.4 mV	4.00 ft	150.00 ml/min
11/2/2021 1:15 PM	27:00	6.96 pH	59.08 °F	10,963 µS/cm	0.22 mg/L	54.8 mV	4.00 ft	150.00 ml/min
11/2/2021 1:18 PM	30:00	6.96 pH	59.76 °F	10,938 µS/cm	0.14 mg/L	53.1 mV	4.00 ft	150.00 ml/min

11/2/2021 1:21 PM	33:00	6.96 pH	59.41 °F	10,910 $\mu$ S/cm	0.13 mg/L	52.3 mV	4.00 ft	150.00 ml/min
11/2/2021 1:24 PM	36:00	6.97 pH	59.49 °F	10,883 $\mu$ S/cm	0.13 mg/L	51.5 mV	4.00 ft	150.00 ml/min



**Samples**

Sample ID:	Description:
MW-515	Sample Time: 13:28 Final DTW: 4.53 ft btoc Final RDO: 0.13 mg/L Ferrous Iron: 0.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 11:04:05 AM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-516</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.21 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 5850 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 50 F, light wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 11:04 AM	00:00	7.47 pH	58.76 °F	1,718.9 µS/cm	5.22 mg/L	131.1 mV	4.21 ft	150.00 ml/min
11/3/2021 11:07 AM	03:00	7.02 pH	59.63 °F	1,801.9 µS/cm	0.46 mg/L	95.4 mV	4.21 ft	150.00 ml/min
11/3/2021 11:10 AM	06:00	7.01 pH	59.70 °F	1,935.7 µS/cm	0.32 mg/L	57.0 mV	4.21 ft	150.00 ml/min
11/3/2021 11:13 AM	09:00	6.98 pH	59.78 °F	1,985.3 µS/cm	0.28 mg/L	33.9 mV	4.21 ft	150.00 ml/min
11/3/2021 11:16 AM	12:00	6.97 pH	59.64 °F	2,045.3 µS/cm	0.29 mg/L	17.5 mV	4.21 ft	150.00 ml/min
11/3/2021 11:19 AM	15:00	6.94 pH	59.72 °F	2,318.2 µS/cm	0.25 mg/L	7.6 mV	4.21 ft	150.00 ml/min
11/3/2021 11:22 AM	18:00	6.93 pH	59.73 °F	2,266.0 µS/cm	0.25 mg/L	-0.6 mV	4.21 ft	150.00 ml/min
11/3/2021 11:25 AM	21:00	6.92 pH	59.75 °F	2,275.6 µS/cm	0.25 mg/L	-6.5 mV	4.21 ft	150.00 ml/min
11/3/2021 11:28 AM	24:00	6.92 pH	59.97 °F	2,304.2 µS/cm	0.24 mg/L	-11.2 mV	4.21 ft	150.00 ml/min
11/3/2021 11:31 AM	27:00	6.90 pH	60.00 °F	2,332.3 µS/cm	0.22 mg/L	-14.1 mV	4.21 ft	150.00 ml/min
11/3/2021 11:34 AM	30:00	6.90 pH	60.19 °F	2,327.6 µS/cm	0.23 mg/L	-16.4 mV	4.21 ft	150.00 ml/min
11/3/2021 11:37 AM	33:00	6.89 pH	60.28 °F	2,349.1 µS/cm	0.23 mg/L	-18.8 mV	4.21 ft	150.00 ml/min

11/3/2021 11:40 AM	36:00	6.89 pH	60.39 °F	2,379.7 µS/cm	0.25 mg/L	-20.1 mV	4.21 ft	150.00 ml/min
11/3/2021 11:43 AM	39:00	6.88 pH	60.45 °F	2,362.3 µS/cm	0.24 mg/L	-20.3 mV	4.21 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-516	Sample Time : 11:48 Final DTW: 4.21 ft btoc Final RDO: 0.24 mg/L Ferrous Iron: 0.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 12:24:17 PM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-517</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.92 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 3150 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.07 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 55 F, no wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 12:24 PM	00:00	6.70 pH	61.71 °F	8,704.9 µS/cm	5.20 mg/L	85.0 mV	4.92 ft	150.00 ml/min
11/3/2021 12:27 PM	03:00	6.67 pH	61.18 °F	8,492.5 µS/cm	0.28 mg/L	83.4 mV	4.92 ft	150.00 ml/min
11/3/2021 12:30 PM	06:00	6.64 pH	60.98 °F	6,697.2 µS/cm	0.21 mg/L	83.7 mV	4.92 ft	150.00 ml/min
11/3/2021 12:33 PM	09:00	6.67 pH	60.97 °F	5,397.0 µS/cm	0.49 mg/L	82.4 mV	4.92 ft	150.00 ml/min
11/3/2021 12:36 PM	12:00	6.71 pH	61.13 °F	4,921.1 µS/cm	1.29 mg/L	82.4 mV	4.92 ft	150.00 ml/min
11/3/2021 12:39 PM	15:00	6.74 pH	61.21 °F	4,802.3 µS/cm	1.79 mg/L	83.8 mV	4.92 ft	150.00 ml/min
11/3/2021 12:42 PM	18:00	6.75 pH	61.08 °F	4,897.3 µS/cm	1.99 mg/L	85.7 mV	4.92 ft	150.00 ml/min
11/3/2021 12:45 PM	21:00	6.76 pH	61.06 °F	4,899.9 µS/cm	2.04 mg/L	87.5 mV	4.92 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-517

Sample Time: 12:48  
Final DTW: 4.99 ft btoc  
Final RDO: 2.04 mg/L  
Ferrous Iron: 0.0 mg\L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 11:25:26 AM

Project: Edmonds Terminal 4Q21 (9)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-518</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 2.5 ft</b> <b>Total Depth: 12.5 ft</b> <b>Initial Depth to Water: 8.11 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4050 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.15 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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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 %		
11/3/2021 11:25 AM	00:00	8.10 pH	62.98 °F	879.23 µS/cm	3.62 mg/L	5.07 NTU	121.2 mV	8.11 ft	150.00 ml/min
11/3/2021 11:28 AM	03:00	7.84 pH	63.86 °F	862.44 µS/cm	1.21 mg/L	0.71 NTU	-16.9 mV	8.11 ft	150.00 ml/min
11/3/2021 11:31 AM	06:00	7.81 pH	64.17 °F	965.71 µS/cm	0.81 mg/L	1.15 NTU	-28.9 mV	8.11 ft	150.00 ml/min
11/3/2021 11:34 AM	09:00	7.83 pH	64.25 °F	1,046.6 µS/cm	0.66 mg/L	0.25 NTU	-55.7 mV	8.11 ft	150.00 ml/min
11/3/2021 11:37 AM	12:00	7.87 pH	64.51 °F	1,196.3 µS/cm	0.52 mg/L	0.03 NTU	-81.0 mV	8.11 ft	150.00 ml/min
11/3/2021 11:40 AM	15:00	7.85 pH	64.61 °F	1,216.8 µS/cm	0.44 mg/L	0.00 NTU	-93.8 mV	8.11 ft	150.00 ml/min
11/3/2021 11:43 AM	18:00	7.89 pH	64.70 °F	1,329.8 µS/cm	0.36 mg/L	0.00 NTU	-102.0 mV	8.11 ft	150.00 ml/min
11/3/2021 11:46 AM	21:00	7.89 pH	64.79 °F	1,329.5 µS/cm	0.27 mg/L	0.00 NTU	-112.7 mV	8.11 ft	150.00 ml/min
11/3/2021 11:49 AM	24:00	7.91 pH	64.90 °F	1,365.6 µS/cm	0.25 mg/L	0.00 NTU	-119.8 mV	8.11 ft	150.00 ml/min
11/3/2021 11:52 AM	27:00	7.92 pH	65.01 °F	1,470.1 µS/cm	0.30 mg/L	0.00 NTU	-122.9 mV	8.11 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-518	Sample Time: 12:02 Final DTW: 8.26 Final RDO: 0.30 mg/L Ferrous Iron: 2.5 mg/L
Dup-4	

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# Low-Flow Test Report:

Test Date / Time: 11/1/2021 1:10:26 PM

Project: Edmonds Terminal 4Q21 (3)

Operator Name: JMS

<b>Location Name: MW-519</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.4 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 3600 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

56F 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 %		
11/1/2021 1:10 PM	00:00	6.83 pH	55.95 °F	0.07 µS/cm	9.58 mg/L	19.3 mV	6.40 ft	150.00 ml/min
11/1/2021 1:13 PM	03:00	6.67 pH	59.55 °F	999.92 µS/cm	0.74 mg/L	34.9 mV	6.40 ft	150.00 ml/min
11/1/2021 1:16 PM	06:00	6.70 pH	59.88 °F	869.11 µS/cm	0.71 mg/L	46.9 mV	6.40 ft	150.00 ml/min
11/1/2021 1:19 PM	09:00	6.72 pH	60.01 °F	794.77 µS/cm	0.95 mg/L	63.0 mV	6.40 ft	150.00 ml/min
11/1/2021 1:22 PM	12:00	6.72 pH	60.02 °F	783.93 µS/cm	1.03 mg/L	74.9 mV	6.40 ft	150.00 ml/min
11/1/2021 1:25 PM	15:00	6.73 pH	60.08 °F	769.86 µS/cm	1.12 mg/L	83.4 mV	6.40 ft	150.00 ml/min
11/1/2021 1:28 PM	18:00	6.73 pH	60.00 °F	769.13 µS/cm	1.18 mg/L	89.1 mV	6.40 ft	150.00 ml/min
11/1/2021 1:31 PM	21:00	6.74 pH	60.02 °F	758.58 µS/cm	1.32 mg/L	98.0 mV	6.40 ft	150.00 ml/min
11/1/2021 1:34 PM	24:00	6.74 pH	59.96 °F	761.66 µS/cm	1.38 mg/L	103.6 mV	6.40 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-519	Sample Time: 1346 Final DTW: 6.39 ft btoc Final RDO: 1.38 mg/L Ferrous Iron: 0.0 MW-519-MS MW-519-MSD
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# Low-Flow Test Report:

**Test Date / Time:** 11/3/2021 10:58:08 AM

**Project:** Edmonds Terminal 4Q21 (8)

**Operator Name:** JMS

<p><b>Location Name: MW-520</b>  <b>Well Diameter: 2 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 10 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 13 ft</b>  <b>Initial Depth to Water: 7.18 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 10 ft</b>  <b>Estimated Total Volume Pumped: 4950 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 466619</b></p>
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**Test Notes:**

**Weather Conditions:**

58F overcast

**Low-Flow Readings:**

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 10:58 AM	00:00	6.64 pH	59.10 °F	4,441.5 µS/cm	1.96 mg/L	-16.5 mV	7.18 ft	150.00 ml/min
11/3/2021 11:01 AM	03:00	6.66 pH	60.00 °F	3,672.8 µS/cm	1.16 mg/L	-33.4 mV	7.18 ft	150.00 ml/min
11/3/2021 11:04 AM	06:00	6.90 pH	59.60 °F	2,184.4 µS/cm	4.38 mg/L	-9.8 mV	7.18 ft	150.00 ml/min
11/3/2021 11:07 AM	09:00	7.01 pH	59.07 °F	1,831.5 µS/cm	6.49 mg/L	22.1 mV	7.18 ft	150.00 ml/min
11/3/2021 11:10 AM	12:00	7.00 pH	59.08 °F	1,797.8 µS/cm	6.55 mg/L	26.8 mV	7.18 ft	150.00 ml/min
11/3/2021 11:13 AM	15:00	6.97 pH	59.11 °F	1,838.2 µS/cm	6.44 mg/L	37.6 mV	7.18 ft	150.00 ml/min
11/3/2021 11:16 AM	18:00	6.93 pH	59.33 °F	1,958.7 µS/cm	5.75 mg/L	34.9 mV	7.18 ft	150.00 ml/min
11/3/2021 11:19 AM	21:00	6.99 pH	59.06 °F	1,804.0 µS/cm	6.63 mg/L	50.5 mV	7.18 ft	150.00 ml/min
11/3/2021 11:22 AM	24:00	6.94 pH	59.19 °F	1,882.1 µS/cm	6.13 mg/L	43.4 mV	7.18 ft	150.00 ml/min
11/3/2021 11:25 AM	27:00	6.94 pH	59.20 °F	1,867.9 µS/cm	6.13 mg/L	50.9 mV	7.18 ft	150.00 ml/min
11/3/2021 11:28 AM	30:00	6.95 pH	59.23 °F	1,850.5 µS/cm	6.20 mg/L	51.5 mV	7.18 ft	150.00 ml/min
11/3/2021 11:31 AM	33:00	6.93 pH	59.32 °F	1,889.0 µS/cm	5.97 mg/L	55.6 mV	7.18 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
MW-520	Sample Time: 11:36 Final DTW: 7.18 ft btoc Ferrous Iron: 0.5 Final RDO: 5.97 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 12:04:01 PM

Project: Edmonds Terminal 4Q21 (9)

Operator Name: JMS

<b>Location Name: MW-521</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.09 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.01 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

58F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 12:04 PM	00:00	7.11 pH	60.46 °F	747.98 µS/cm	8.62 mg/L	64.6 mV	6.09 ft	150.00 ml/min
11/3/2021 12:07 PM	03:00	6.86 pH	59.70 °F	698.89 µS/cm	7.99 mg/L	104.4 mV	6.09 ft	150.00 ml/min
11/3/2021 12:10 PM	06:00	6.84 pH	59.46 °F	695.54 µS/cm	8.02 mg/L	116.4 mV	6.09 ft	150.00 ml/min
11/3/2021 12:13 PM	09:00	6.84 pH	59.18 °F	679.27 µS/cm	8.08 mg/L	127.4 mV	6.09 ft	150.00 ml/min
11/3/2021 12:16 PM	12:00	6.84 pH	58.97 °F	673.16 µS/cm	8.14 mg/L	126.6 mV	6.09 ft	150.00 ml/min
11/3/2021 12:19 PM	15:00	6.86 pH	58.73 °F	643.78 µS/cm	8.26 mg/L	135.1 mV	6.09 ft	150.00 ml/min
11/3/2021 12:22 PM	18:00	6.88 pH	58.49 °F	613.33 µS/cm	8.40 mg/L	145.1 mV	6.09 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-521

Sample Time: 1226  
Final DTW: 6.10. ft btoc  
Ferrous Iron: 0.0  
Final RDO: 847 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/4/2021 12:04:56 PM

Project: Edmonds Terminal 4Q21 (11)

Operator Name: JMS

<b>Location Name: MW-521</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.75 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 1350 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

62F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/4/2021 12:04 PM	00:00	7.84 pH	64.73 °F	312.68 µS/cm	8.41 mg/L	278.2 mV	5.75 ft	150.00 ml/min
11/4/2021 12:07 PM	03:00	8.17 pH	61.83 °F	261.28 µS/cm	8.49 mg/L	267.2 mV	5.75 ft	150.00 ml/min
11/4/2021 12:10 PM	06:00	8.22 pH	60.78 °F	259.29 µS/cm	8.33 mg/L	262.3 mV	5.75 ft	150.00 ml/min
11/4/2021 12:13 PM	09:00	8.24 pH	60.27 °F	248.02 µS/cm	8.45 mg/L	268.2 mV	5.75 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-521	Sample Time 12:16 Final DTW: 5.75 ft btoc Final RDO: 8.33 mg/L Note: only Dissolved manganese sample collected

# Low-Flow Test Report:

**Test Date / Time:** 11/1/2021 12:01:40 PM

**Project:** Edmonds Terminal 4Q21 (2)

**Operator Name:** Daniel Sly Gilbert

<b>Location Name:</b> MW-522 <b>Well Diameter:</b> 2 in <b>Casing Type:</b> PVC <b>Screen Length:</b> 10 ft <b>Top of Screen:</b> 3 ft <b>Total Depth:</b> 13 ft <b>Initial Depth to Water:</b> 7.66 ft	<b>Pump Type:</b> Geotech Geopump Series 2 <b>Tubing Type:</b> Polyethylene 0.170 x 0.25 <b>Pump Intake From TOC:</b> 10 ft <b>Estimated Total Volume Pumped:</b> 2700 ml <b>Flow Cell Volume:</b> 130 ml <b>Final Flow Rate:</b> 150 ml/min <b>Final Draw Down:</b> 0.04 ft	<b>Instrument Used:</b> Aqua TROLL 600 Vented <b>Serial Number:</b> 697401
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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 %		
11/1/2021 12:01 PM	00:00	8.16 pH	57.36 °F	755.47 µS/cm	8.32 mg/L	2.21 NTU	276.4 mV	7.66 ft	150.00 ml/min
11/1/2021 12:04 PM	03:00	8.25 pH	57.74 °F	772.93 µS/cm	7.91 mg/L	0.53 NTU	283.0 mV	7.66 ft	150.00 ml/min
11/1/2021 12:07 PM	06:00	8.26 pH	57.80 °F	782.04 µS/cm	7.51 mg/L	0.00 NTU	286.3 mV	7.66 ft	150.00 ml/min
11/1/2021 12:10 PM	09:00	8.24 pH	57.88 °F	787.83 µS/cm	6.45 mg/L	0.00 NTU	293.1 mV	7.66 ft	150.00 ml/min
11/1/2021 12:13 PM	12:00	8.22 pH	57.88 °F	792.62 µS/cm	6.06 mg/L	0.00 NTU	288.2 mV	7.66 ft	150.00 ml/min
11/1/2021 12:16 PM	15:00	8.20 pH	57.86 °F	792.16 µS/cm	5.54 mg/L	0.00 NTU	290.1 mV	7.66 ft	150.00 ml/min
11/1/2021 12:19 PM	18:00	8.21 pH	57.92 °F	794.10 µS/cm	5.66 mg/L	0.00 NTU	293.5 mV	7.66 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-522

Sample Time: 12:32  
Final DTW: 7.70 ft btoc  
Final RDO: 5.66 mg/L  
Ferrous Iron: 0 mg/L



# Low-Flow Test Report:

Test Date / Time: 11/2/2021 10:36:48 AM

Project: Edmonds Terminal 4Q21 (4)

Operator Name: JMS

<b>Location Name: MW-525</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 5.9 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 2.44 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

58F overcast

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/2/2021 10:36 AM	00:00	5.85 pH	59.07 °F	268.97 µS/cm	4.56 mg/L	248.3 mV	5.90 ft	150.00 ml/min
11/2/2021 10:39 AM	03:00	5.74 pH	59.84 °F	267.09 µS/cm	1.88 mg/L	229.4 mV	5.90 ft	150.00 ml/min
11/2/2021 10:42 AM	06:00	5.72 pH	59.86 °F	264.16 µS/cm	1.69 mg/L	221.0 mV	5.90 ft	150.00 ml/min
11/2/2021 10:45 AM	09:00	5.69 pH	59.90 °F	264.35 µS/cm	1.57 mg/L	220.3 mV	5.90 ft	150.00 ml/min
11/2/2021 10:48 AM	12:00	5.73 pH	59.95 °F	268.22 µS/cm	1.50 mg/L	213.7 mV	5.90 ft	150.00 ml/min
11/2/2021 10:51 AM	15:00	5.74 pH	59.86 °F	267.08 µS/cm	1.54 mg/L	207.2 mV	5.90 ft	150.00 ml/min
11/2/2021 10:54 AM	18:00	5.76 pH	59.92 °F	268.60 µS/cm	1.54 mg/L	200.8 mV	5.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-525	Sample Time: 1056 Final DTW: 7.34 ft Final DRO: 1.54 mg/L



# Low-Flow Test Report:

Test Date / Time: 11/2/2021 10:45:28 AM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-526</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.85 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 6300 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.50 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 50 F, no wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/2/2021 10:45 AM	00:00	5.92 pH	57.10 °F	200.27 µS/cm	1.27 mg/L	238.2 mV	4.85 ft	150.00 ml/min
11/2/2021 10:48 AM	03:00	5.94 pH	56.70 °F	187.48 µS/cm	2.43 mg/L	242.9 mV	4.85 ft	150.00 ml/min
11/2/2021 10:51 AM	06:00	5.94 pH	56.55 °F	188.45 µS/cm	2.26 mg/L	237.7 mV	4.85 ft	150.00 ml/min
11/2/2021 10:54 AM	09:00	5.94 pH	56.63 °F	192.89 µS/cm	2.01 mg/L	230.6 mV	4.85 ft	150.00 ml/min
11/2/2021 10:57 AM	12:00	5.95 pH	56.52 °F	201.40 µS/cm	1.75 mg/L	217.1 mV	4.85 ft	150.00 ml/min
11/2/2021 11:00 AM	15:00	5.98 pH	56.51 °F	205.38 µS/cm	1.45 mg/L	208.2 mV	4.85 ft	150.00 ml/min
11/2/2021 11:03 AM	18:00	5.98 pH	56.47 °F	202.58 µS/cm	1.19 mg/L	199.2 mV	4.85 ft	150.00 ml/min
11/2/2021 11:06 AM	21:00	5.99 pH	56.44 °F	197.43 µS/cm	1.02 mg/L	196.9 mV	4.85 ft	150.00 ml/min
11/2/2021 11:09 AM	24:00	6.00 pH	56.33 °F	204.00 µS/cm	0.92 mg/L	197.1 mV	4.85 ft	150.00 ml/min
11/2/2021 11:12 AM	27:00	6.00 pH	56.68 °F	209.57 µS/cm	0.83 mg/L	193.7 mV	4.85 ft	150.00 ml/min

11/2/2021 11:15 AM	30:00	6.00 pH	56.33 °F	205.69 µS/cm	0.74 mg/L	190.6 mV	4.85 ft	150.00 ml/min
11/2/2021 11:18 AM	33:00	6.00 pH	56.31 °F	205.19 µS/cm	0.71 mg/L	188.1 mV	4.85 ft	150.00 ml/min
11/2/2021 11:21 AM	36:00	6.01 pH	56.35 °F	214.15 µS/cm	0.63 mg/L	185.5 mV	4.85 ft	150.00 ml/min
11/2/2021 11:24 AM	39:00	6.01 pH	56.40 °F	206.82 µS/cm	0.58 mg/L	183.6 mV	4.85 ft	150.00 ml/min
11/2/2021 11:27 AM	42:00	6.01 pH	56.48 °F	210.04 µS/cm	0.57 mg/L	180.6 mV	4.85 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-526	<p>Sample time: 11:28</p> <p>Final DTW: 5.35 ft btoc</p> <p>Final RDO: 0.57 mg/L</p> <p>Ferrous Iron: 0.5 mg/L</p>

# Low-Flow Test Report:

**Test Date / Time:** 11/3/2021 9:27:21 AM

**Project:** Edmonds Terminal 4Q21 (7)

**Operator Name:** JMS

<p><b>Location Name: MW-530</b>  <b>Well Diameter: 1 in</b>  <b>Casing Type: PVC</b>  <b>Screen Length: 5 ft</b>  <b>Top of Screen: 3 ft</b>  <b>Total Depth: 8 ft</b>  <b>Initial Depth to Water: 6.38 ft</b></p>	<p><b>Pump Type: Geotech Geopump Series 2</b>  <b>Tubing Type: Polyethylene 0.170 x 1/4</b>  <b>Pump Intake From TOC: 10 ft</b>  <b>Estimated Total Volume Pumped: 6300 ml</b>  <b>Flow Cell Volume: 130 ml</b>  <b>Final Flow Rate: 150 ml/min</b>  <b>Final Draw Down: 0.51 ft</b></p>	<p><b>Instrument Used: Aqua TROLL 600 Vented</b>  <b>Serial Number: 466619</b></p>
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**Test Notes:**

**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 %		
11/3/2021 9:27 AM	00:00	6.19 pH	55.66 °F	35,042 µS/cm	3.83 mg/L	-99.1 mV	6.38 ft	150.00 ml/min
11/3/2021 9:30 AM	03:00	6.23 pH	55.89 °F	34,863 µS/cm	0.32 mg/L	-148.7 mV	6.38 ft	150.00 ml/min
11/3/2021 9:33 AM	06:00	6.25 pH	56.04 °F	34,766 µS/cm	0.23 mg/L	-170.0 mV	6.38 ft	150.00 ml/min
11/3/2021 9:36 AM	09:00	6.27 pH	55.96 °F	34,677 µS/cm	0.22 mg/L	-191.5 mV	6.38 ft	150.00 ml/min
11/3/2021 9:39 AM	12:00	6.28 pH	55.92 °F	34,544 µS/cm	0.19 mg/L	-224.5 mV	6.38 ft	150.00 ml/min
11/3/2021 9:42 AM	15:00	6.29 pH	55.82 °F	34,410 µS/cm	0.19 mg/L	-239.2 mV	6.38 ft	150.00 ml/min
11/3/2021 9:45 AM	18:00	6.30 pH	55.87 °F	34,220 µS/cm	0.17 mg/L	-249.4 mV	6.38 ft	150.00 ml/min
11/3/2021 9:48 AM	21:00	6.31 pH	55.94 °F	34,066 µS/cm	0.17 mg/L	-255.4 mV	6.38 ft	150.00 ml/min
11/3/2021 9:51 AM	24:00	6.32 pH	55.98 °F	33,879 µS/cm	0.15 mg/L	-256.1 mV	6.38 ft	150.00 ml/min
11/3/2021 9:54 AM	27:00	6.32 pH	56.09 °F	33,708 µS/cm	0.16 mg/L	-265.0 mV	6.38 ft	150.00 ml/min
11/3/2021 9:57 AM	30:00	6.33 pH	56.16 °F	33,468 µS/cm	0.14 mg/L	-262.7 mV	6.38 ft	150.00 ml/min
11/3/2021 10:00 AM	33:00	6.34 pH	56.16 °F	33,237 µS/cm	0.14 mg/L	-270.5 mV	6.38 ft	150.00 ml/min

11/3/2021 10:03 AM	36:00	6.34 pH	56.20 °F	32,984 µS/cm	0.13 mg/L	-268.0 mV	6.38 ft	150.00 ml/min
11/3/2021 10:06 AM	39:00	6.35 pH	56.22 °F	32,761 µS/cm	0.14 mg/L	-271.1 mV	6.38 ft	150.00 ml/min
11/3/2021 10:09 AM	42:00	6.36 pH	56.22 °F	32,561 µS/cm	0.12 mg/L	-271.6 mV	6.38 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-530	Sample Time: 1016 Final DTW: 6.89 ft btoc Ferrous Iron: 0.5 Final RDO: 0.13 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/2/2021 11:38:39 AM

Project: Edmonds Terminal 4Q21 (5)

Operator Name: JMS

<b>Location Name: MW-531</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 7.12 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 4050 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.1 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

55 F 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 %		
11/2/2021 11:38 AM	00:00	6.38 pH	57.87 °F	4,024.2 µS/cm	3.02 mg/L	133.3 mV	7.12 ft	150.00 ml/min
11/2/2021 11:41 AM	03:00	6.45 pH	59.06 °F	4,039.3 µS/cm	0.37 mg/L	87.1 mV	7.12 ft	150.00 ml/min
11/2/2021 11:44 AM	06:00	6.47 pH	59.13 °F	3,794.5 µS/cm	0.23 mg/L	70.9 mV	7.12 ft	150.00 ml/min
11/2/2021 11:47 AM	09:00	6.51 pH	59.15 °F	2,869.1 µS/cm	0.29 mg/L	70.2 mV	7.12 ft	150.00 ml/min
11/2/2021 11:50 AM	12:00	6.55 pH	59.09 °F	2,000.5 µS/cm	0.43 mg/L	72.1 mV	7.12 ft	150.00 ml/min
11/2/2021 11:53 AM	15:00	6.54 pH	58.94 °F	1,799.7 µS/cm	0.61 mg/L	77.8 mV	7.12 ft	150.00 ml/min
11/2/2021 11:56 AM	18:00	6.55 pH	58.85 °F	1,681.6 µS/cm	0.66 mg/L	78.3 mV	7.12 ft	150.00 ml/min
11/2/2021 11:59 AM	21:00	6.54 pH	58.83 °F	1,630.2 µS/cm	0.70 mg/L	81.7 mV	7.12 ft	150.00 ml/min
11/2/2021 12:02 PM	24:00	6.54 pH	58.94 °F	1,623.3 µS/cm	0.65 mg/L	84.7 mV	7.12 ft	150.00 ml/min
11/2/2021 12:05 PM	27:00	6.54 pH	58.92 °F	1,603.9 µS/cm	0.64 mg/L	87.1 mV	7.12 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-531	Sample Time: 1216 Final DTW: 7.13 ft Ferrous Iron: 0.0 Final DRO: 0.60 mg/L

Created using VuSitu from In-Situ, Inc.



# Low-Flow Test Report:

Test Date / Time: 11/2/2021 12:57:53 PM

Project: Edmonds Terminal 4Q21 (6)

Operator Name: JMS

<b>Location Name: MW-532</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 6.88 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 10 ft</b> <b>Estimated Total Volume Pumped: 2700 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 1.22 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466619</b>
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## Test Notes:

## Weather Conditions:

52F rain

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/2/2021 12:57 PM	00:00	6.57 pH	56.67 °F	155.98 µS/cm	7.17 mg/L	213.7 mV	6.88 ft	150.00 ml/min
11/2/2021 1:00 PM	03:00	5.97 pH	57.60 °F	147.88 µS/cm	4.45 mg/L	249.6 mV	6.88 ft	150.00 ml/min
11/2/2021 1:03 PM	06:00	5.96 pH	57.68 °F	152.57 µS/cm	4.48 mg/L	254.7 mV	6.88 ft	150.00 ml/min
11/2/2021 1:06 PM	09:00	5.91 pH	57.71 °F	157.34 µS/cm	4.48 mg/L	262.5 mV	6.88 ft	150.00 ml/min
11/2/2021 1:09 PM	12:00	5.89 pH	57.77 °F	161.56 µS/cm	4.89 mg/L	268.3 mV	6.88 ft	150.00 ml/min
11/2/2021 1:12 PM	15:00	5.87 pH	57.81 °F	160.10 µS/cm	4.97 mg/L	271.5 mV	6.88 ft	150.00 ml/min
11/2/2021 1:15 PM	18:00	5.81 pH	57.87 °F	168.37 µS/cm	4.66 mg/L	271.0 mV	6.88 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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MW-532

Sample Time: 1326  
Final DTW: 8.10 ft btoc  
Final RDO: 4.66 mg/L  
Ferrous Iron: 0.0

# Low-Flow Test Report:

Test Date / Time: 11/2/2021 12:06:56 PM

Project: Edmonds Terminal 4Q21 (5)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-533</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.92 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 9 ft</b> <b>Estimated Total Volume Pumped: 2702.5 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
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## Test Notes:

## Weather Conditions:

Rainy

## 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 %		
11/2/2021 12:06 PM	00:00	8.19 pH	57.52 °F	10,113 µS/cm	6.10 mg/L	0.59 NTU	141.1 mV	4.92 ft	150.00 ml/min
11/2/2021 12:09 PM	03:00	8.55 pH	57.30 °F	10,169 µS/cm	4.25 mg/L	0.00 NTU	172.0 mV	4.92 ft	150.00 ml/min
11/2/2021 12:12 PM	06:00	8.56 pH	57.15 °F	10,214 µS/cm	4.01 mg/L	0.00 NTU	151.9 mV	4.92 ft	150.00 ml/min
11/2/2021 12:15 PM	09:00	8.57 pH	57.23 °F	10,150 µS/cm	4.51 mg/L	0.00 NTU	179.0 mV	4.92 ft	150.00 ml/min
11/2/2021 12:18 PM	12:00	8.58 pH	57.17 °F	10,219 µS/cm	4.07 mg/L	0.00 NTU	194.7 mV	4.92 ft	150.00 ml/min
11/2/2021 12:21 PM	15:00	8.56 pH	57.20 °F	10,211 µS/cm	4.03 mg/L	0.00 NTU	191.9 mV	4.92 ft	150.00 ml/min
11/2/2021 12:24 PM	18:01	8.58 pH	57.17 °F	10,090 µS/cm	3.94 mg/L	0.00 NTU	201.5 mV	4.92 ft	150.00 ml/min

## Samples

Sample ID:	Description:
------------	--------------

MW-533

Sample Time: 12:32  
Final DTW: 4.92 ft btoc  
Final RDO: 3.94 mg/L  
Ferrous Iron: 0.5 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/2/2021 1:02:45 PM

Project: Edmonds Terminal 4Q21 (6)

Operator Name: Daniel Sly Gilbert

<b>Location Name: MW-534</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 3.44 ft</b>	<b>Pump Type: Geotech Geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 0.25</b> <b>Pump Intake From TOC: 7 ft</b> <b>Estimated Total Volume Pumped: 5850 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 697401</b>
---	--	---

## Test Notes:

## Weather Conditions:

Rainy

## 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 %		
11/2/2021 1:02 PM	00:00	8.33 pH	58.08 °F	935.75 µS/cm	4.64 mg/L	68.28 NTU	-4.3 mV	3.44 ft	150.00 ml/min
11/2/2021 1:05 PM	03:00	8.02 pH	59.17 °F	841.50 µS/cm	0.62 mg/L	9.25 NTU	-76.5 mV	3.44 ft	150.00 ml/min
11/2/2021 1:08 PM	06:00	7.98 pH	59.28 °F	841.81 µS/cm	0.47 mg/L	7.02 NTU	-86.3 mV	3.44 ft	150.00 ml/min
11/2/2021 1:11 PM	09:00	7.96 pH	59.44 °F	836.37 µS/cm	0.42 mg/L	9.66 NTU	-89.1 mV	3.44 ft	150.00 ml/min
11/2/2021 1:14 PM	12:00	7.94 pH	59.54 °F	835.95 µS/cm	0.32 mg/L	7.99 NTU	-98.9 mV	3.44 ft	150.00 ml/min
11/2/2021 1:17 PM	15:00	7.90 pH	59.50 °F	859.93 µS/cm	0.29 mg/L	8.58 NTU	-103.7 mV	3.44 ft	150.00 ml/min
11/2/2021 1:20 PM	18:00	7.86 pH	59.67 °F	2,979.6 µS/cm	0.30 mg/L	2.68 NTU	-102.2 mV	3.44 ft	150.00 ml/min
11/2/2021 1:23 PM	21:00	7.86 pH	59.86 °F	4,346.8 µS/cm	0.65 mg/L	2.27 NTU	-91.8 mV	3.44 ft	150.00 ml/min
11/2/2021 1:26 PM	24:00	7.86 pH	59.99 °F	4,831.2 µS/cm	0.32 mg/L	0.35 NTU	-93.0 mV	3.44 ft	150.00 ml/min
11/2/2021 1:29 PM	27:00	7.87 pH	60.04 °F	5,068.5 µS/cm	0.24 mg/L	0.90 NTU	-94.9 mV	3.44 ft	150.00 ml/min
11/2/2021 1:32 PM	30:00	7.86 pH	60.07 °F	5,088.3 µS/cm	0.28 mg/L	5.27 NTU	-96.9 mV	3.44 ft	150.00 ml/min
11/2/2021 1:35 PM	33:00	7.87 pH	60.12 °F	5,208.7 µS/cm	0.20 mg/L	0.00 NTU	-101.8 mV	3.44 ft	150.00 ml/min

11/2/2021 1:38 PM	36:00	7.87 pH	60.10 °F	5,252.5 μS/cm	0.23 mg/L	0.00 NTU	-102.9 mV	3.44 ft	150.00 ml/min
11/2/2021 1:41 PM	39:00	7.87 pH	60.10 °F	5,295.5 μS/cm	0.20 mg/L	0.00 NTU	-103.8 mV	3.44 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-534	Sample Time: 13:52 Final DTW: 3.50 Final RDO: 0.20 mg/L Ferrous Iron: 2.0 mg/L

# Low-Flow Test Report:

Test Date / Time: 11/3/2021 9:32:57 AM

Project: Edmonds Terminal 4Q21

Operator Name: MDA

<b>Location Name: MW-535</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 3 ft</b> <b>Total Depth: 13 ft</b> <b>Initial Depth to Water: 4.79 ft</b>	<b>Pump Type: Geotech geopump Series 2</b> <b>Tubing Type: Polyethylene 0.170 x 1/4</b> <b>Pump Intake From TOC: 8 ft</b> <b>Estimated Total Volume Pumped: 6750 ml</b> <b>Flow Cell Volume: 130 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.06 ft</b>	<b>Instrument Used: Aqua TROLL 600 Vented</b> <b>Serial Number: 466586</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 50 F, no wind

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	ORP	Depth To Water	Flow
		+/- 10 %	+/- 10 %	+/- 10 %	+/- 15 %	+/- 15 %		
11/3/2021 9:32 AM	00:00	7.24 pH	54.84 °F	20,309 µS/cm	6.34 mg/L	249.6 mV	4.79 ft	150.00 ml/min
11/3/2021 9:35 AM	03:00	7.28 pH	54.53 °F	20,451 µS/cm	4.98 mg/L	256.4 mV	4.79 ft	150.00 ml/min
11/3/2021 9:38 AM	06:00	7.30 pH	54.44 °F	20,321 µS/cm	4.68 mg/L	258.7 mV	4.79 ft	150.00 ml/min
11/3/2021 9:41 AM	09:00	7.30 pH	54.43 °F	20,238 µS/cm	4.60 mg/L	261.7 mV	4.79 ft	150.00 ml/min
11/3/2021 9:44 AM	12:00	7.30 pH	54.45 °F	20,203 µS/cm	4.56 mg/L	263.0 mV	4.79 ft	150.00 ml/min
11/3/2021 9:47 AM	15:00	7.31 pH	54.55 °F	20,216 µS/cm	4.47 mg/L	263.6 mV	4.79 ft	150.00 ml/min
11/3/2021 9:50 AM	18:00	7.31 pH	54.52 °F	20,250 µS/cm	4.44 mg/L	264.1 mV	4.79 ft	150.00 ml/min
11/3/2021 9:53 AM	21:00	7.31 pH	54.55 °F	20,279 µS/cm	4.40 mg/L	264.4 mV	4.79 ft	150.00 ml/min
11/3/2021 9:56 AM	24:00	7.31 pH	54.56 °F	20,244 µS/cm	4.35 mg/L	264.6 mV	4.79 ft	150.00 ml/min
11/3/2021 9:59 AM	27:00	7.32 pH	54.59 °F	20,178 µS/cm	4.36 mg/L	264.9 mV	4.79 ft	150.00 ml/min
11/3/2021 10:02 AM	30:00	7.31 pH	54.56 °F	20,178 µS/cm	4.37 mg/L	265.0 mV	4.79 ft	150.00 ml/min
11/3/2021 10:05 AM	33:00	7.31 pH	54.57 °F	20,156 µS/cm	4.30 mg/L	265.1 mV	4.79 ft	150.00 ml/min

11/3/2021 10:08 AM	36:00	7.31 pH	54.53 °F	20,289 µS/cm	4.28 mg/L	265.1 mV	4.79 ft	150.00 ml/min
11/3/2021 10:11 AM	39:00	7.31 pH	54.55 °F	20,413 µS/cm	4.14 mg/L	265.2 mV	4.79 ft	150.00 ml/min
11/3/2021 10:14 AM	42:00	7.31 pH	54.59 °F	20,474 µS/cm	4.07 mg/L	265.2 mV	4.79 ft	150.00 ml/min
11/3/2021 10:17 AM	45:00	7.31 pH	54.61 °F	20,478 µS/cm	4.03 mg/L	265.2 mV	4.79 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-535	Sample Time: 10:18 Final DTW: 4.85 ft btoc Final RDO: 4.03 mg/L Ferrous Iron: 0.0 mg/L



# Low-Flow Test Report:

**Test Date / Time:** 11/2/2021 11:42:52 AM

**Project:** Edmonds Terminal 4Q21

**Operator Name:** TB

<p><b>Location Name:</b> MW-ER  <b>Well Diameter:</b> 2 in  <b>Casing Type:</b> PVC  <b>Screen Length:</b> 10 ft  <b>Top of Screen:</b> 3 ft  <b>Total Depth:</b> 13 ft  <b>Initial Depth to Water:</b> 6.7 ft</p>	<p><b>Pump Type:</b> Geotech Geopump Series 2  <b>Tubing Type:</b> Polyethylene 0.170 x1/4  <b>Pump Intake From TOC:</b> 8 ft  <b>Estimated Total Volume Pumped:</b> 5850 ml  <b>Flow Cell Volume:</b> 130 ml  <b>Final Flow Rate:</b> 150 ml/min  <b>Final Draw Down:</b> 0.5 ft</p>	<p><b>Instrument Used:</b> Aqua TROLL 600 Vented  <b>Serial Number:</b> 466689</p>
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## Test Notes:

## Weather Conditions:

Rainy, 50 F

## 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 %		
11/2/2021 11:42 AM	00:00	6.20 pH	59.21 °F	1,299.3 µS/cm	0.35 mg/L	2.55 NTU	-59.1 mV	6.70 ft	150.00 ml/min
11/2/2021 11:45 AM	03:00	6.45 pH	60.07 °F	1,273.2 µS/cm	0.23 mg/L	1.62 NTU	-121.3 mV	6.70 ft	150.00 ml/min
11/2/2021 11:48 AM	06:00	6.48 pH	60.45 °F	1,256.8 µS/cm	0.18 mg/L	13.53 NTU	-131.9 mV	6.70 ft	150.00 ml/min
11/2/2021 11:51 AM	09:00	6.50 pH	60.37 °F	1,246.6 µS/cm	0.18 mg/L	22.40 NTU	-138.8 mV	6.70 ft	150.00 ml/min
11/2/2021 11:54 AM	12:00	6.49 pH	60.30 °F	1,237.6 µS/cm	0.18 mg/L	32.60 NTU	-148.5 mV	6.70 ft	150.00 ml/min
11/2/2021 11:57 AM	15:00	6.49 pH	60.50 °F	1,240.7 µS/cm	0.14 mg/L	25.17 NTU	-152.2 mV	6.70 ft	150.00 ml/min
11/2/2021 12:00 PM	18:00	6.48 pH	60.49 °F	1,233.2 µS/cm	0.20 mg/L	33.89 NTU	-152.5 mV	6.70 ft	150.00 ml/min
11/2/2021 12:03 PM	21:00	6.47 pH	60.28 °F	1,229.0 µS/cm	0.21 mg/L	37.52 NTU	-152.7 mV	6.70 ft	150.00 ml/min
11/2/2021 12:06 PM	24:00	6.47 pH	60.35 °F	1,230.1 µS/cm	0.18 mg/L	32.28 NTU	-152.7 mV	6.70 ft	150.00 ml/min
11/2/2021 12:09 PM	27:00	6.47 pH	60.35 °F	1,226.3 µS/cm	0.20 mg/L	37.72 NTU	-151.5 mV	6.70 ft	150.00 ml/min
11/2/2021 12:12 PM	30:00	6.46 pH	60.18 °F	1,224.6 µS/cm	0.21 mg/L	42.73 NTU	-152.7 mV	6.70 ft	150.00 ml/min
11/2/2021 12:15 PM	33:00	6.46 pH	60.33 °F	1,227.6 µS/cm	0.21 mg/L	45.46 NTU	-153.5 mV	6.70 ft	150.00 ml/min

11/2/2021 12:18 PM	36:00	6.47 pH	60.29 °F	1,230.6 μS/cm	0.19 mg/L	42.05 NTU	-153.2 mV	6.70 ft	150.00 ml/min
11/2/2021 12:21 PM	39:00	6.47 pH	60.17 °F	1,232.5 μS/cm	0.20 mg/L	42.37 NTU	-153.9 mV	6.70 ft	150.00 ml/min

## Samples

Sample ID:	Description:
MW-ER	Sample Time: 12:24 Final DTW: 7.27 ft btoc Final RDO: 0.21 mg/L Ferrous Iron: 4.5 mg/L

# APPENDIX C

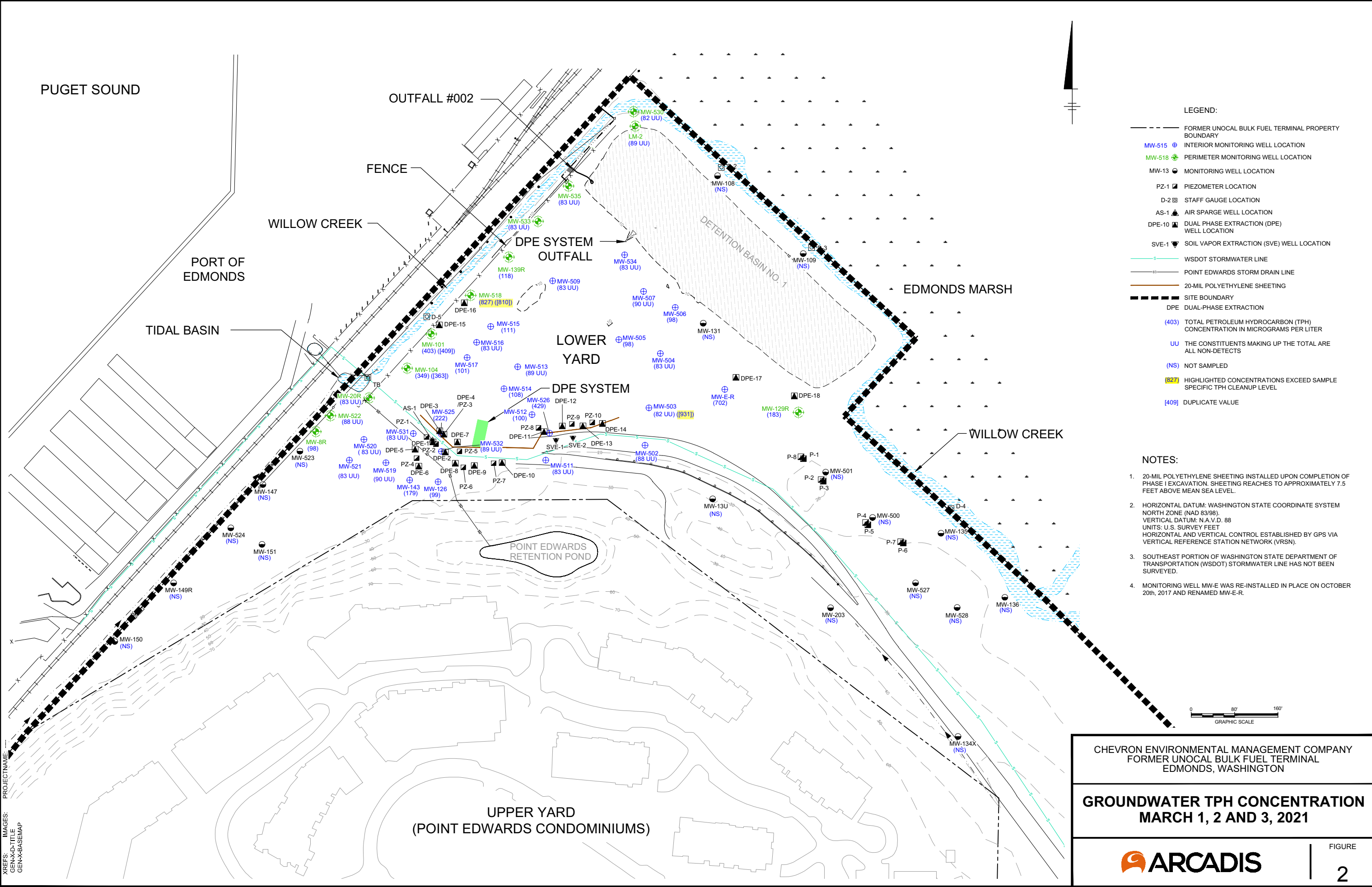
## Groundwater Sampling Event Figures







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 GEN-X-BASEMAP

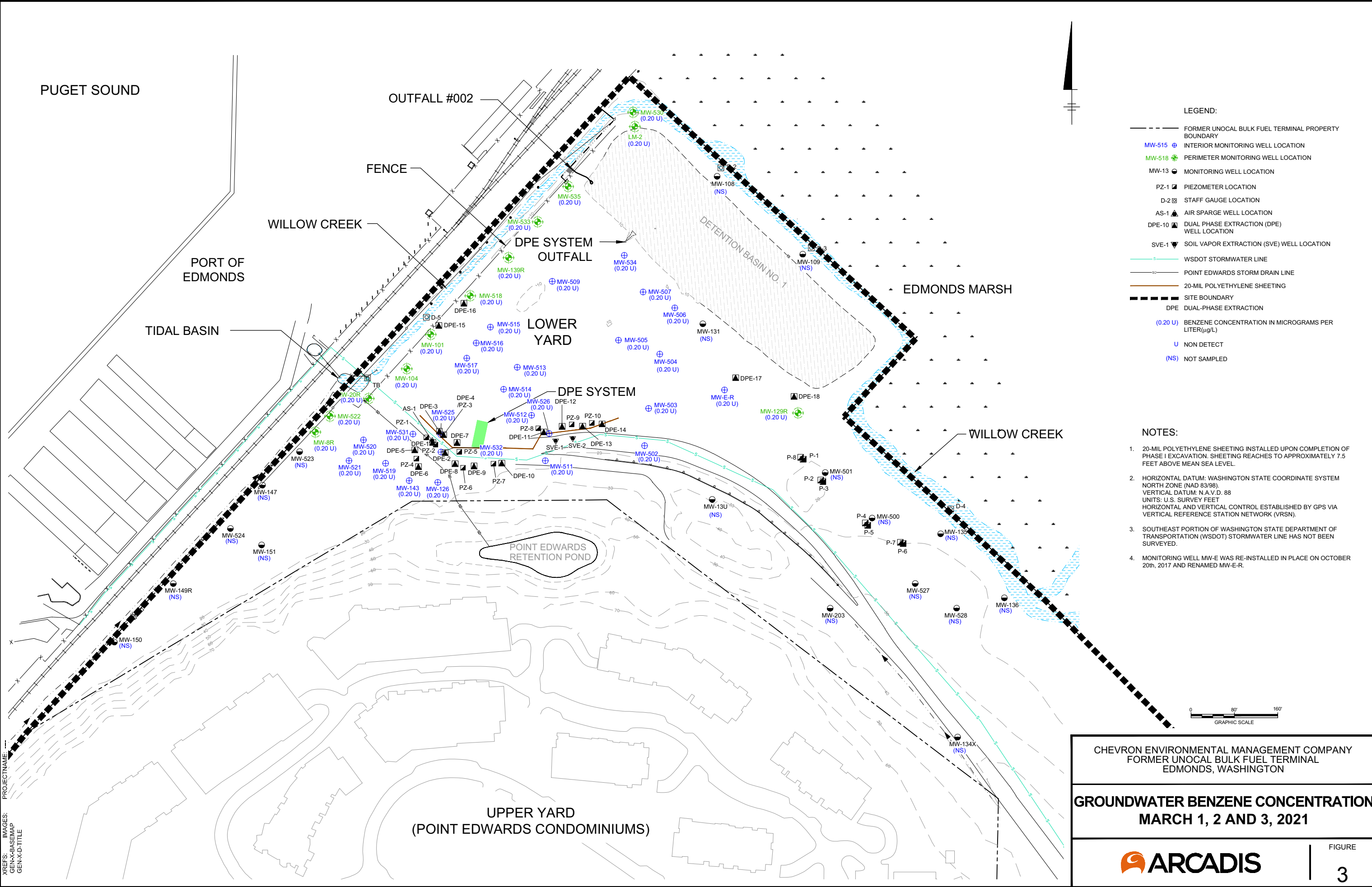


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 FORMER UNOCAL BULK FUEL TERMINAL  
 EDMONDS, WASHINGTON

**GROUNDWATER TPH CONCENTRATION  
 MARCH 1, 2 AND 3, 2021**

**ARCADIS**

FIGURE  
**2**



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

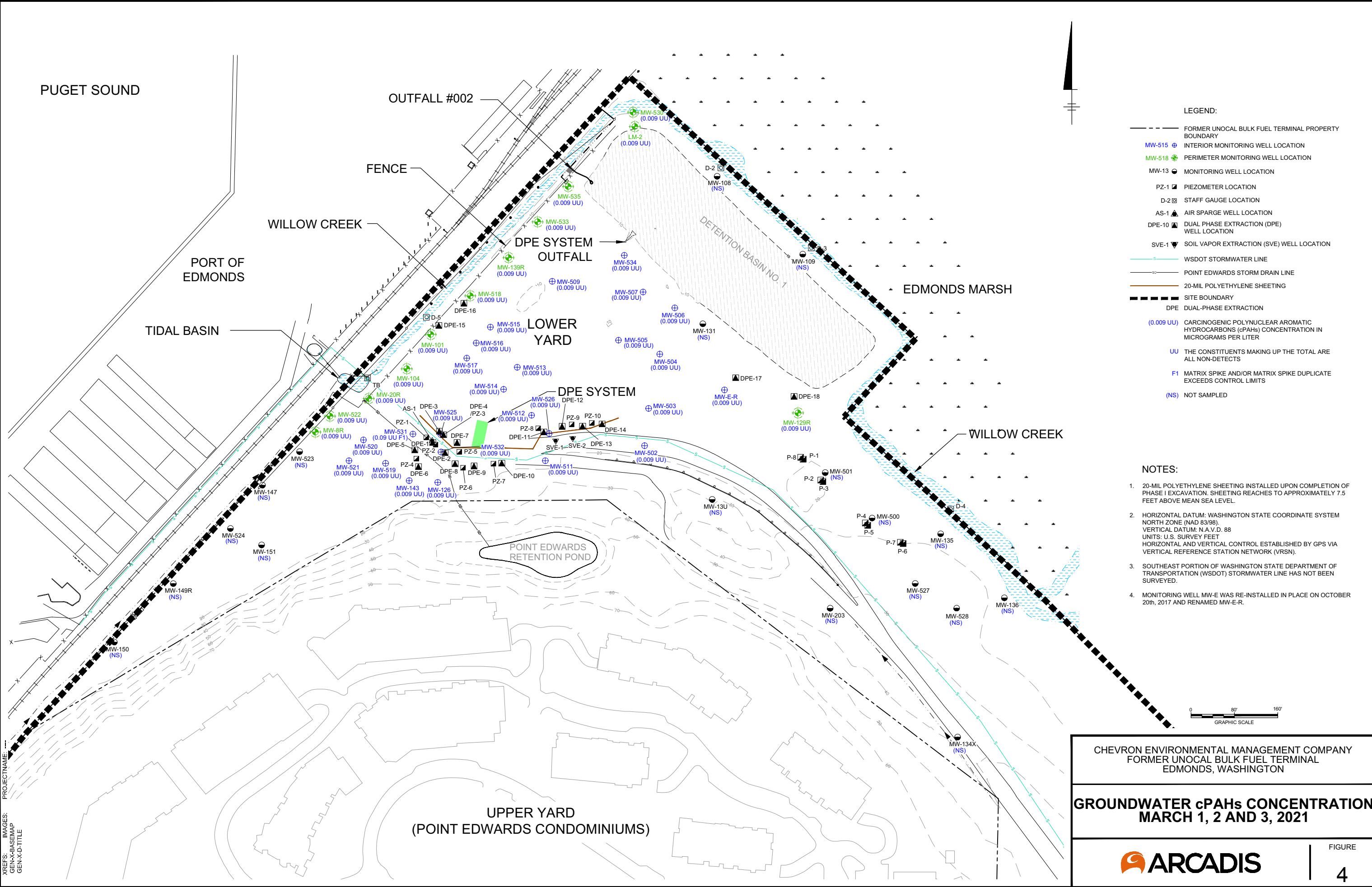
**GROUNDWATER BENZENE CONCENTRATION**  
**MARCH 1, 2 AND 3, 2021**

**ARCADIS**

FIGURE  
**3**

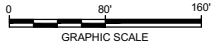


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 XREFS: IMAGES: GEN-X-BASEMAP GEN-X-D-TITLE  
 PLOT STYLE TABLE: PLOT1.PLOTSTYLETABLE BY: SALOTAGI, NANDITHA



- 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
  - F1 MATRIX SPIKE AND/OR MATRIX SPIKE DUPLICATE EXCEEDS CONTROL LIMITS
  - (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.
  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 1, 2 AND 3, 2021**

**ARCADIS**

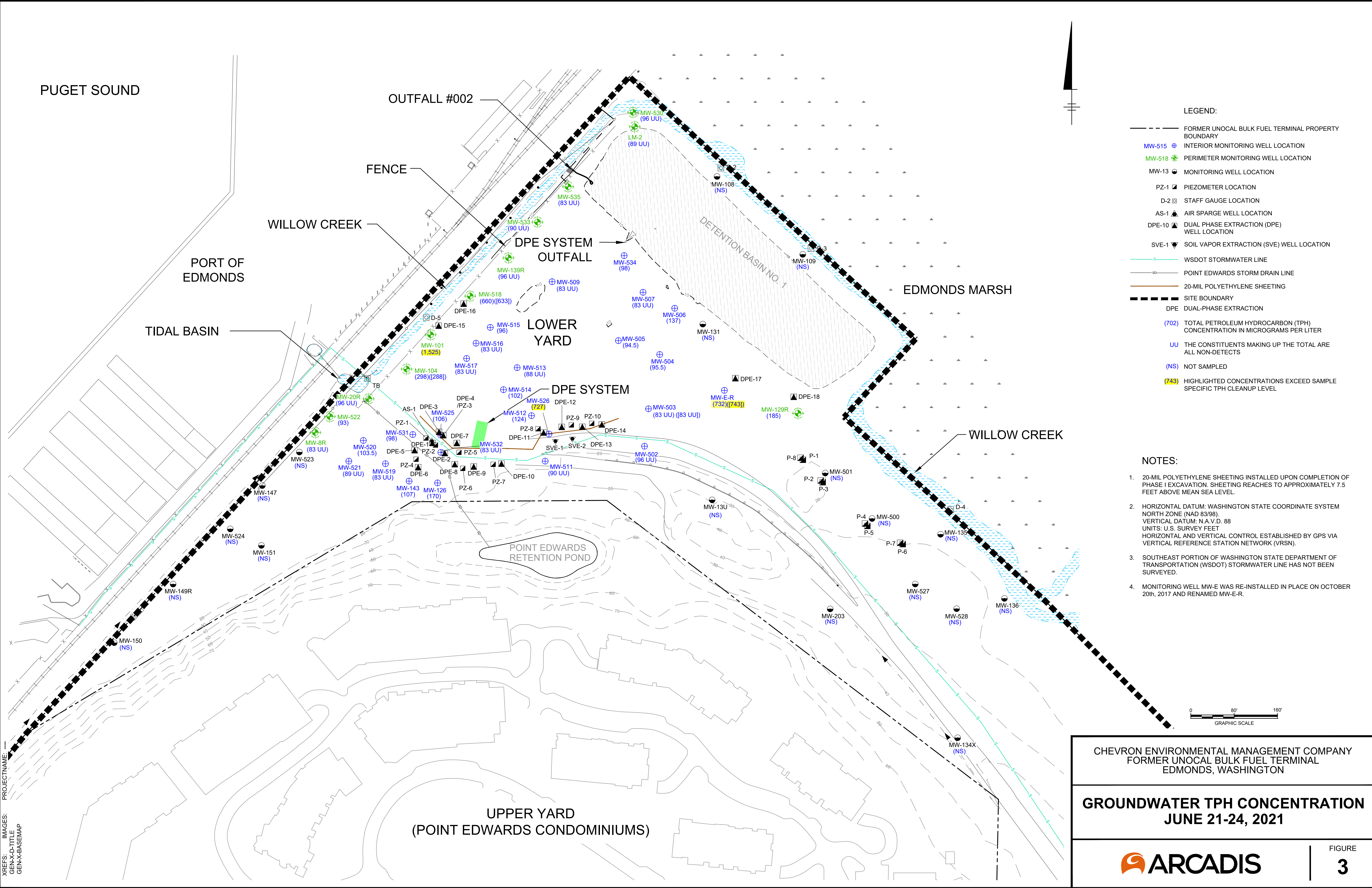
FIGURE  
**4**







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 GEN-X-BASEMAP  
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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
  - (702) TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATION IN MICROGRAMS PER LITER
  - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
  - (NS) NOT SAMPLED
  - (743) 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.



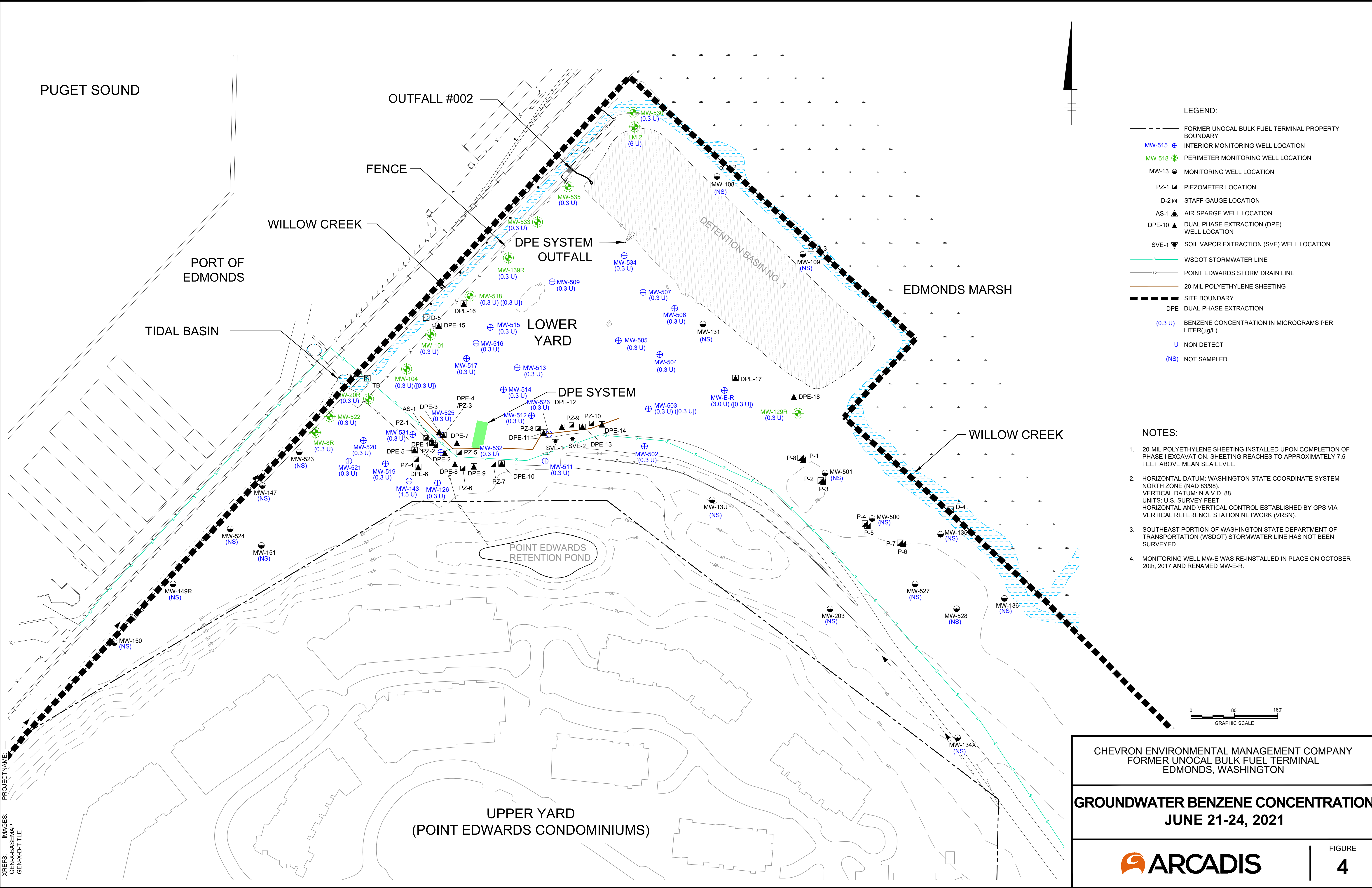
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 FORMER UNOCAL BULK FUEL TERMINAL  
 EDMONDS, WASHINGTON

**GROUNDWATER TPH CONCENTRATION  
 JUNE 21-24, 2021**

**ARCADIS**

FIGURE  
**3**





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

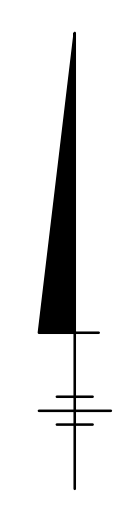
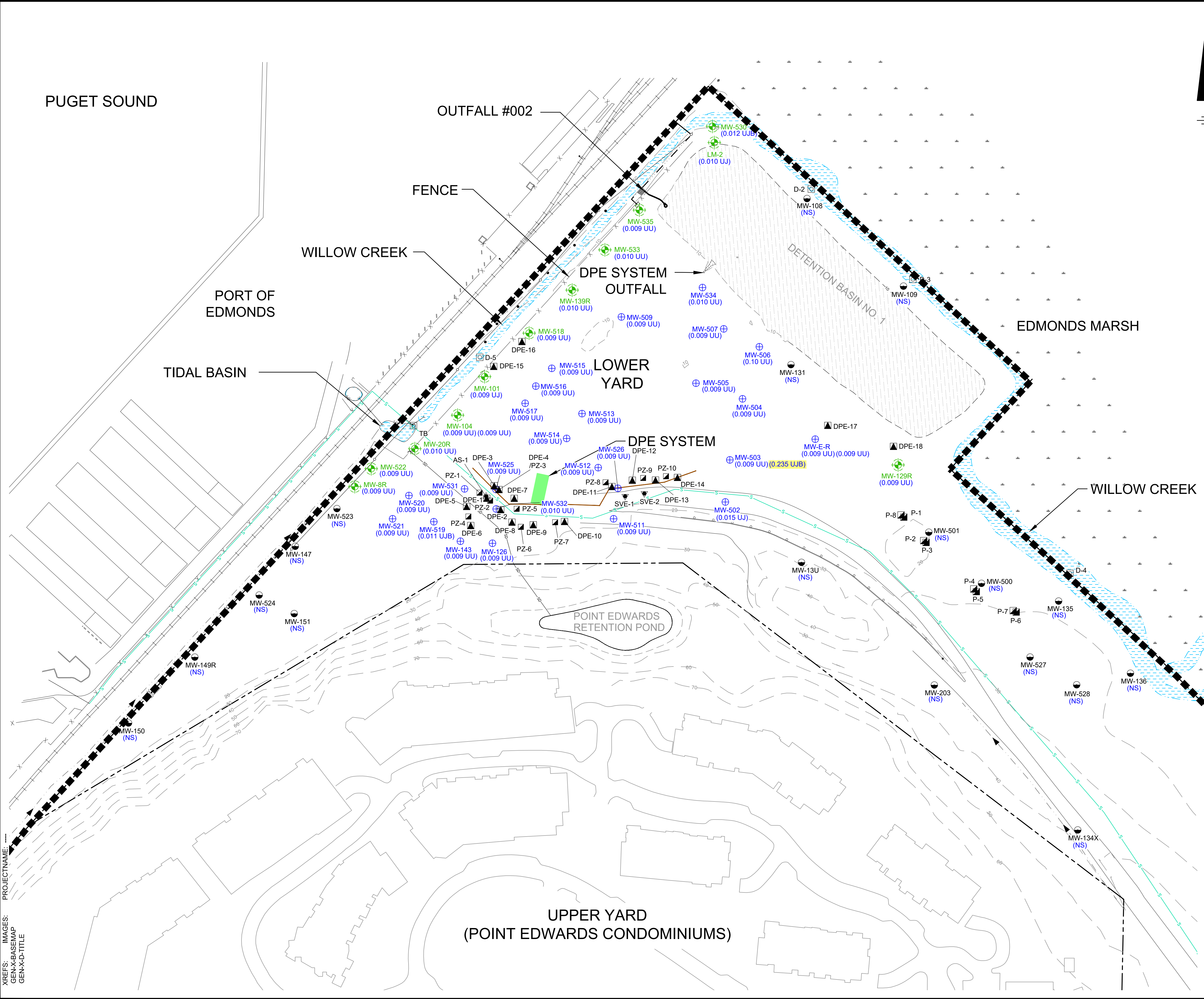
**GROUNDWATER BENZENE CONCENTRATION**  
**JUNE 21-24, 2021**

**ARCADIS**

FIGURE  
**4**

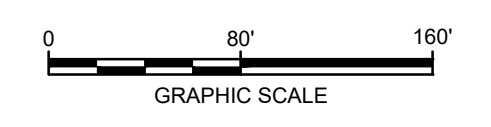


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 XREFS: IMAGES: GEN-X-BASEMAP GEN-X-D-TITLE PROJECTNAME: ---



- 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
  - UU THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE ESTIMATED COMPOUND QUANTITATION LIMIT
  - B COMPOUND WAS FOUND IN THE BLANK AND SAMPLE
  - J INDICATES AN ESTIMATED VALUE
  - F1 MATRIX SPIKE AND/OR MATRIX SPIKE DUPLICATE EXCEEDS CONTROL LIMITS
  - (NS) NOT SAMPLED
  - (0.235 UJB) 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 cPAHs CONCENTRATION  
 JUNE 21-24, 2021**

**ARCADIS**

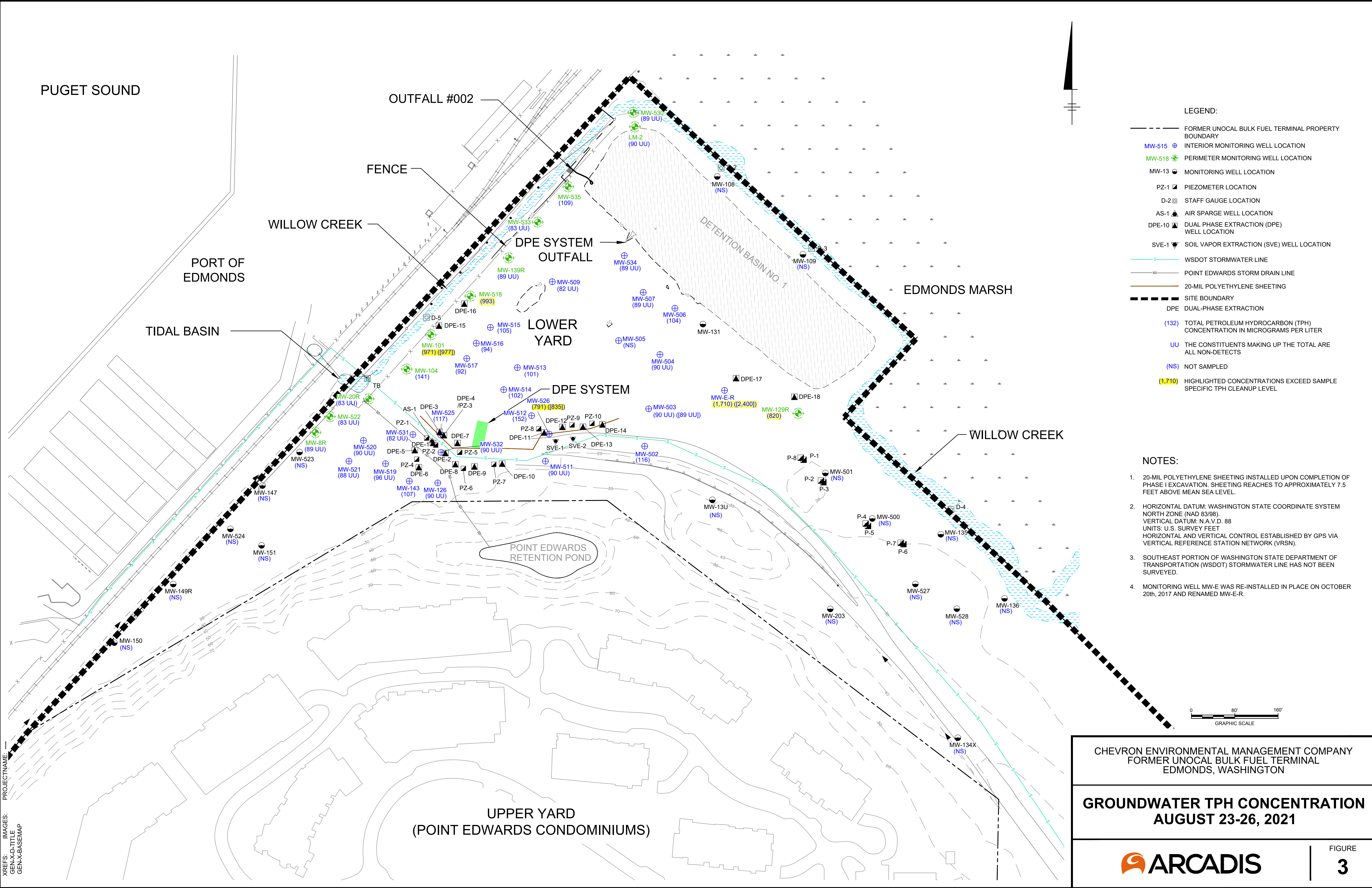
FIGURE  
**5**





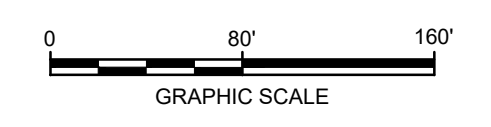


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- LEGEND:**
- FORMER UNOCAL BULK FUEL TERMINAL PROPERTY BOUNDARY
  - MW-515 ⊕ INTERIOR MONITORING WELL LOCATION
  - MW-518 ⊕ PERIMETER MONITORING WELL LOCATION
  - MW-13 ⊕ MONITORING WELL LOCATION
  - PZ-1 ⊕ PIEZOMETER LOCATION
  - D-2 ⊕ STAFF GAUGE 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
  - (132) TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATION IN MICROGRAMS PER LITER
  - UU THE CONSTITUENTS MAKING UP THE TOTAL ARE ALL NON-DETECTS
  - (NS) NOT SAMPLED
  - (1,710) 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

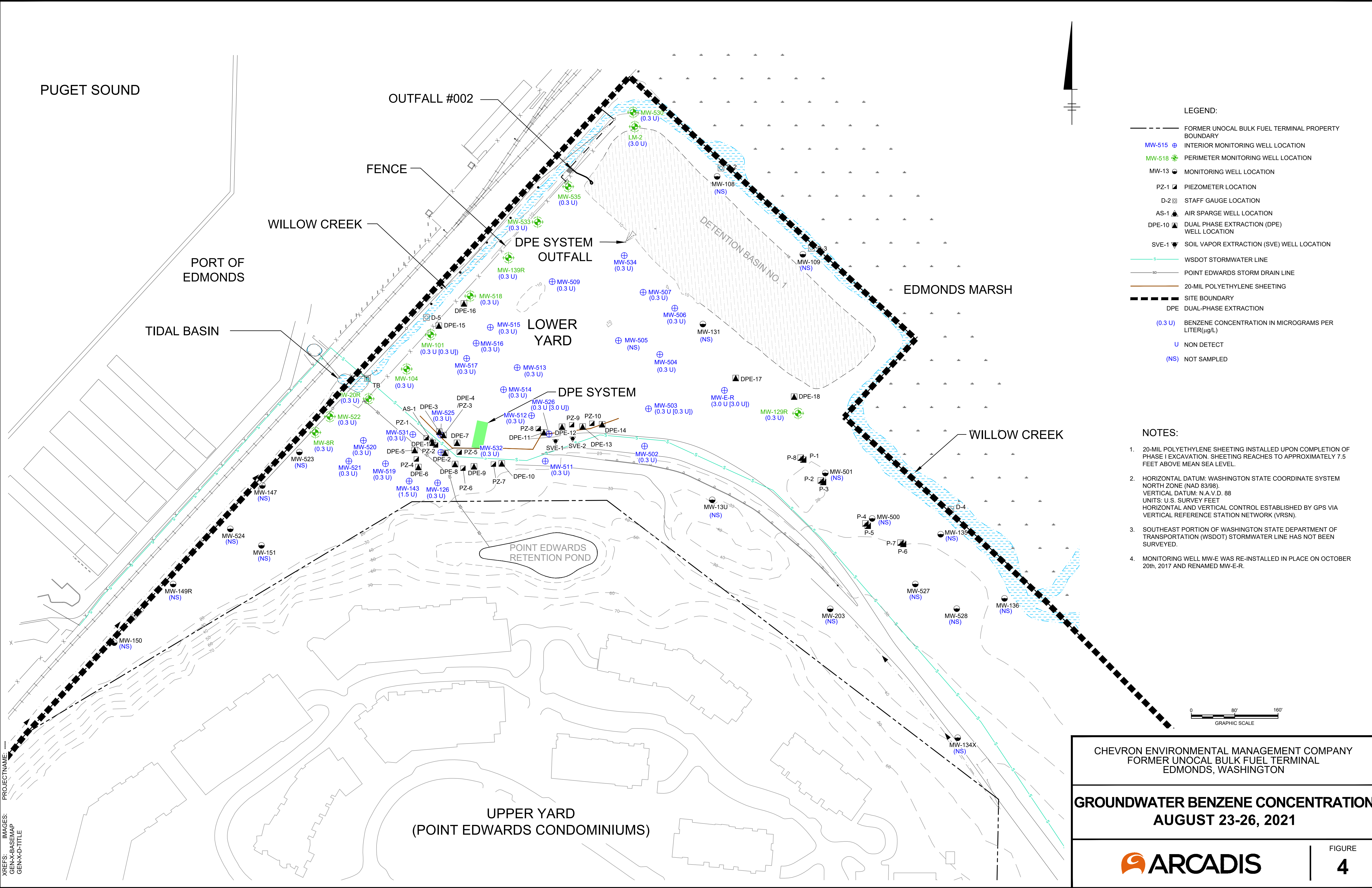
**GROUNDWATER TPH CONCENTRATION  
 AUGUST 23-26, 2021**

**ARCADIS**

FIGURE  
**3**



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 FORMER UNOCAL BULK FUEL TERMINAL  
 EDMONDS, WASHINGTON

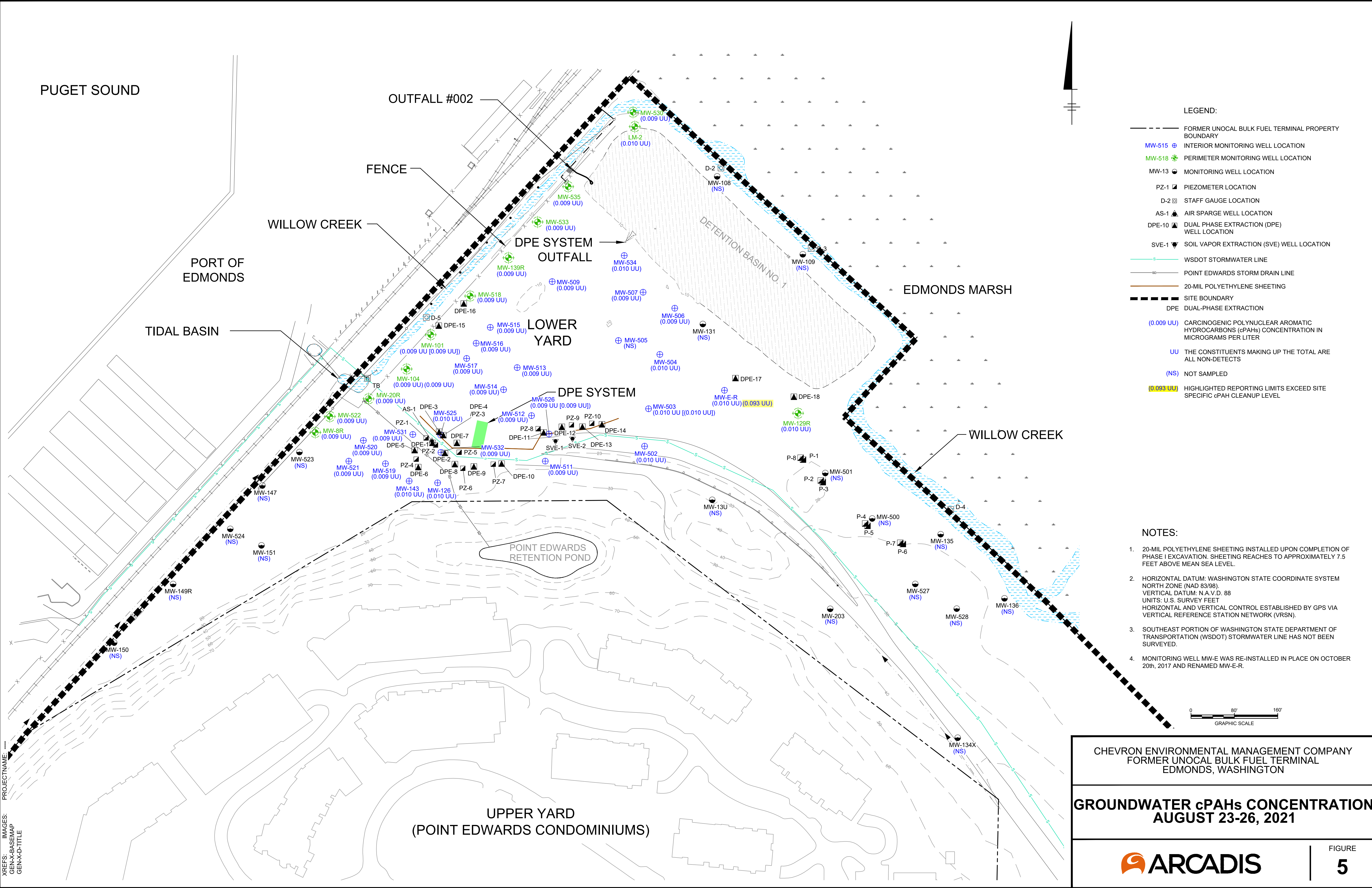
**GROUNDWATER BENZENE CONCENTRATION  
 AUGUST 23-26, 2021**

**ARCADIS**

FIGURE  
**4**



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 FORMER UNOCAL BULK FUEL TERMINAL  
 EDMONDS, WASHINGTON

**GROUNDWATER cPAHs CONCENTRATION  
 AUGUST 23-26, 2021**

**ARCADIS**

FIGURE  
**5**



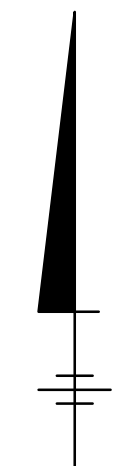
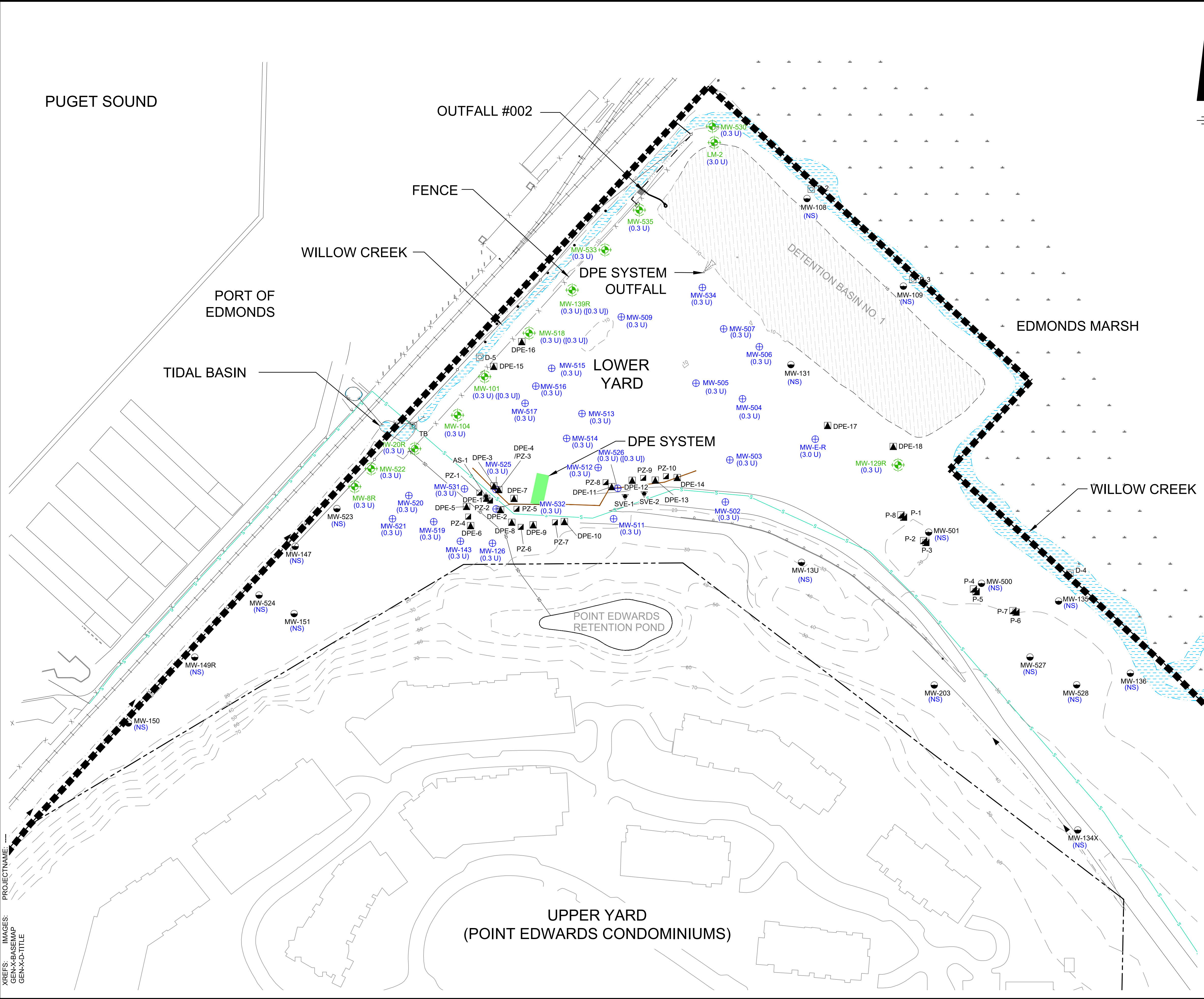






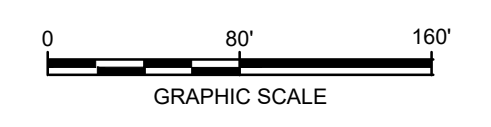


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 XREFS: IMAGES: GEN-X-BASEMAP GEN-X-D-TITLE



- 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
  - (0.3 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.
  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

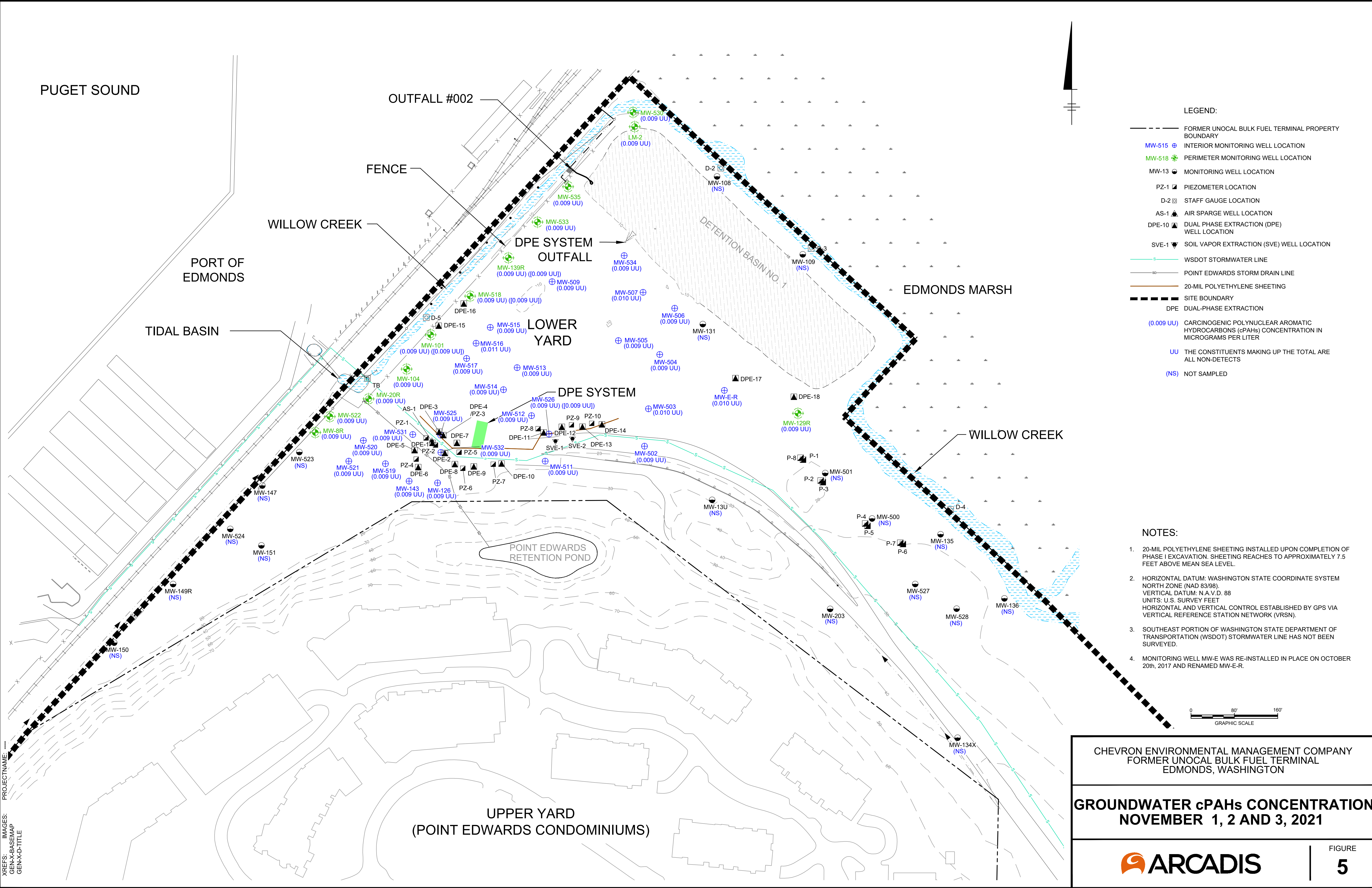
**GROUNDWATER BENZENE CONCENTRATION  
 NOVEMBER 1, 2 AND 3, 2021**

**ARCADIS**

FIGURE  
**4**

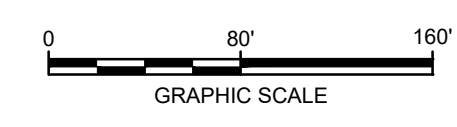


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 PLOT STYLE TABLE: GEN-X-D-TITLE  
 PLOTTED: 12/10/2021 5:10 PM BY: Y. M. BABU



- 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

- 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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  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  
 NOVEMBER 1, 2 AND 3, 2021**

**ARCADIS**

FIGURE  
**5**

# APPENDIX D

Groundwater Monitoring Laboratory Analytical Reports and Chain of Custody Documentation





## ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC  
2425 New Holland Pike  
Lancaster, PA 17601  
Tel: (717)656-2300

Laboratory Job ID: 410-31061-1  
Client Project/Site: Edmonds Terminal

For:  
Chevron Environmental Management Corp.  
6001 Bollinger Canyon Road  
San Ramon, California 94583

Attn: Kim Jolitz



---

Authorized for release by:  
3/15/2021 3:12:55 PM

Amek Carter, Project Manager  
(717)556-7252  
[Loran.Carter@eurofinset.com](mailto:Loran.Carter@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://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 blue ink that reads "Amek Carter". The signature is written in a cursive style.

---

Amek Carter  
Project Manager  
3/15/2021 3:12:55 PM



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## Definitions/Glossary

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Qualifiers

#### GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD 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
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.

### 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: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

---

## Job ID: 410-31061-1

---

Laboratory: Eurofins Lancaster Laboratories Env, LLC

### Narrative

---

#### Job Narrative 410-31061-1

#### Receipt

The samples were received on 3/3/2021 11:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.1°C, 1.4°C, 2.2°C and 2.3°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 samples were outside control limits: LM-2 (410-31061-1), MW-101 (410-31061-3), MW-525 (410-31061-7), MW-526 (410-31061-8), MW-531 (410-31061-10), MW-532 (410-31061-11), MW-534 (410-31061-13) and Dup-4 (410-31061-15). Re-extraction and re-analysis was performed outside of holding time with acceptable results. Data has been reported from the first trial.

Method NWTPH\_Dx: Surrogate recovery for the following sample was outside control limits: MW-533 (410-31061-12). Re-extraction and re-analysis was performed and surrogate recovery was again outside control limits. Data is 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: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Client Sample ID: LM-2

Lab Sample ID: 410-31061-1

No Detections.

## Client Sample ID: MW-ER

Lab Sample ID: 410-31061-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	580		250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	72	J	100	47	ug/L	1		NWTPH-Dx	Total/NA

## Client Sample ID: MW-101

Lab Sample ID: 410-31061-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	330		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: MW-129R

Lab Sample ID: 410-31061-4

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

## Client Sample ID: MW-502

Lab Sample ID: 410-31061-5

No Detections.

## Client Sample ID: MW-509

Lab Sample ID: 410-31061-6

No Detections.

## Client Sample ID: MW-525

Lab Sample ID: 410-31061-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	52	J	110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	160	J	270	110	ug/L	1		NWTPH-Dx	Total/NA

## Client Sample ID: MW-526

Lab Sample ID: 410-31061-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	350		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: MW-530

Lab Sample ID: 410-31061-9

No Detections.

## Client Sample ID: MW-531

Lab Sample ID: 410-31061-10

No Detections.

## Client Sample ID: MW-532

Lab Sample ID: 410-31061-11

No Detections.

## Client Sample ID: MW-533

Lab Sample ID: 410-31061-12

No Detections.

## Client Sample ID: MW-534

Lab Sample ID: 410-31061-13

No Detections.

## Client Sample ID: MW-535

Lab Sample ID: 410-31061-14

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

# Detection Summary

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Client Sample ID: Dup-4

Lab Sample ID: 410-31061-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	330		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: Trip Blank

Lab Sample ID: 410-31061-16

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

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# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: LM-2**

**Lab Sample ID: 410-31061-1**

Date Collected: 03/02/21 13:36

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 12:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					03/10/21 12:30	1
Dibromofluoromethane (Surr)	104		80 - 120					03/10/21 12:30	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/10/21 12:30	1
Toluene-d8 (Surr)	97		80 - 120					03/10/21 12:30	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		03/08/21 09:29	03/09/21 12:27	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:27	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:27	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:27	1
Chrysene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:27	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 12:27	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 12:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	80		10 - 122				03/08/21 09:29	03/09/21 12:27	1
1-Methylnaphthalene-d10 (Surr)	72		49 - 115				03/08/21 09:29	03/09/21 12:27	1
Fluoranthene-d10 (Surr)	94		65 - 129				03/08/21 09:29	03/09/21 12:27	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			03/05/21 03:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					03/05/21 03:47	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		03/04/21 17:15	03/05/21 14:27	1
C24-C40	ND		270	110	ug/L		03/04/21 17:15	03/05/21 14:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 14:27	1
o-terphenyl (Surr)	46	S1-	50 - 150				03/04/21 17:15	03/05/21 14:27	1

**Client Sample ID: MW-ER**

**Lab Sample ID: 410-31061-2**

Date Collected: 03/02/21 10:00

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 12:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					03/10/21 12:52	1
Dibromofluoromethane (Surr)	105		80 - 120					03/10/21 12:52	1
4-Bromofluorobenzene (Surr)	101		80 - 120					03/10/21 12:52	1
Toluene-d8 (Surr)	94		80 - 120					03/10/21 12:52	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-ER**

**Lab Sample ID: 410-31061-2**

Date Collected: 03/02/21 10:00

Matrix: Water

Date Received: 03/03/21 11:40

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:55	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:55	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:55	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:55	1
Chrysene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 12:55	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 12:55	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 12:55	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Benzo(a)pyrene-d12 (Surr)	81		10 - 122				03/08/21 09:29	03/09/21 12:55	1
1-Methylnaphthalene-d10 (Surr)	92		49 - 115				03/08/21 09:29	03/09/21 12:55	1
Fluoranthene-d10 (Surr)	106		65 - 129				03/08/21 09:29	03/09/21 12:55	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C7-C12 (1C)</b>	<b>580</b>		250	19	ug/L			03/05/21 04:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					03/05/21 04:12	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C12-C24</b>	<b>72</b>	<b>J</b>	100	47	ug/L		03/04/21 17:15	03/05/21 15:12	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 15:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 15:12	1
o-terphenyl (Surr)	69		50 - 150				03/04/21 17:15	03/05/21 15:12	1

**Client Sample ID: MW-101**

**Lab Sample ID: 410-31061-3**

Date Collected: 03/02/21 13:04

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 13:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 13:14	1
Dibromofluoromethane (Surr)	105		80 - 120					03/10/21 13:14	1
4-Bromofluorobenzene (Surr)	98		80 - 120					03/10/21 13:14	1
Toluene-d8 (Surr)	96		80 - 120					03/10/21 13:14	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		0.051	0.010	ug/L		03/08/21 09:29	03/09/21 13:24	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/09/21 13:24	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/09/21 13:24	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/09/21 13:24	1
Chrysene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/09/21 13:24	1
Dibenz(a,h)anthracene	ND		0.051	0.020	ug/L		03/08/21 09:29	03/09/21 13:24	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.020	ug/L		03/08/21 09:29	03/09/21 13:24	1

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# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-101**

**Lab Sample ID: 410-31061-3**

Date Collected: 03/02/21 13:04

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	54		10 - 122	03/08/21 09:29	03/09/21 13:24	1
1-Methylnaphthalene-d10 (Surr)	105		49 - 115	03/08/21 09:29	03/09/21 13:24	1
Fluoranthene-d10 (Surr)	103		65 - 129	03/08/21 09:29	03/09/21 13:24	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	330		250	19	ug/L			03/05/21 04:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		03/05/21 04:38	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		03/04/21 17:15	03/05/21 15:57	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 15:57	1
o-terphenyl (Surr)	45	S1-	50 - 150	03/04/21 17:15	03/05/21 15:57	1

**Client Sample ID: MW-129R**

**Lab Sample ID: 410-31061-4**

Date Collected: 03/02/21 09:10

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/10/21 13:36	1
Dibromofluoromethane (Surr)	105		80 - 120		03/10/21 13:36	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/10/21 13:36	1
Toluene-d8 (Surr)	95		80 - 120		03/10/21 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		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 13:52	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 13:52	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 13:52	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 13:52	1
Chrysene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 13:52	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	84		10 - 122	03/08/21 09:29	03/09/21 13:52	1
1-Methylnaphthalene-d10 (Surr)	89		49 - 115	03/08/21 09:29	03/09/21 13:52	1
Fluoranthene-d10 (Surr)	99		65 - 129	03/08/21 09:29	03/09/21 13:52	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			03/05/21 05:04	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-129R**

**Lab Sample ID: 410-31061-4**

Date Collected: 03/02/21 09:10

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 05:04	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	46	ug/L		03/04/21 17:15	03/05/21 16:20	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 16:20	1
o-terphenyl (Surr)	58		50 - 150	03/04/21 17:15	03/05/21 16:20	1

**Client Sample ID: MW-502**

**Lab Sample ID: 410-31061-5**

Date Collected: 03/02/21 11:30

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/10/21 13:58	1
Dibromofluoromethane (Surr)	105		80 - 120		03/10/21 13:58	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/10/21 13:58	1
Toluene-d8 (Surr)	96		80 - 120		03/10/21 13:58	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		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 14:21	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 14:21	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 14:21	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 14:21	1
Chrysene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 14:21	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 14:21	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	66		10 - 122	03/08/21 09:29	03/09/21 14:21	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115	03/08/21 09:29	03/09/21 14:21	1
Fluoranthene-d10 (Surr)	88		65 - 129	03/08/21 09:29	03/09/21 14:21	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			03/05/21 05:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 05:29	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	47	ug/L		03/04/21 17:15	03/05/21 16:43	1
C24-C40	ND		260	110	ug/L		03/04/21 17:15	03/05/21 16:43	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Client Sample ID: MW-502

Lab Sample ID: 410-31061-5

Date Collected: 03/02/21 11:30

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 16:43	1
<i>o</i> -terphenyl (Surr)	62		50 - 150	03/04/21 17:15	03/05/21 16:43	1

## Client Sample ID: MW-509

Lab Sample ID: 410-31061-6

Date Collected: 03/02/21 11:42

Matrix: Water

Date Received: 03/03/21 11:40

### 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			03/10/21 14:21	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/10/21 14:21	1			
Dibromofluoromethane (Surr)	107		80 - 120		03/10/21 14:21	1			
4-Bromofluorobenzene (Surr)	94		80 - 120		03/10/21 14:21	1			
Toluene-d8 (Surr)	96		80 - 120		03/10/21 14:21	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		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 14:49	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 14:49	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 14:49	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 14:49	1
Chrysene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 14:49	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 14:49	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 14:49	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Benzo(a)pyrene-d12 (Surr)	82		10 - 122		03/08/21 09:29	03/09/21 14:49	1		
1-Methylnaphthalene-d10 (Surr)	79		49 - 115		03/08/21 09:29	03/09/21 14:49	1		
Fluoranthene-d10 (Surr)	88		65 - 129		03/08/21 09:29	03/09/21 14:49	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			03/05/21 05:55	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 05:55	1			

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		03/04/21 17:15	03/05/21 17:06	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 17:06	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1		03/04/21 17:15	03/05/21 17:06	1		
<i>o</i> -terphenyl (Surr)	53		50 - 150		03/04/21 17:15	03/05/21 17:06	1		



# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-525**

**Lab Sample ID: 410-31061-7**

Date Collected: 03/02/21 10:16

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 14:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 14:43	1
Dibromofluoromethane (Surr)	107		80 - 120					03/10/21 14:43	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/10/21 14:43	1
Toluene-d8 (Surr)	97		80 - 120					03/10/21 14:43	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		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 15:18	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 15:18	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 15:18	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 15:18	1
Chrysene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 15:18	1
Dibenz(a,h)anthracene	ND		0.054	0.022	ug/L		03/08/21 09:29	03/09/21 15:18	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.022	ug/L		03/08/21 09:29	03/09/21 15:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	84		10 - 122				03/08/21 09:29	03/09/21 15:18	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115				03/08/21 09:29	03/09/21 15:18	1
Fluoranthene-d10 (Surr)	90		65 - 129				03/08/21 09:29	03/09/21 15:18	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			03/05/21 06:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					03/05/21 06:21	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	52	J	110	49	ug/L		03/04/21 17:15	03/05/21 17:56	1
C24-C40	160	J	270	110	ug/L		03/04/21 17:15	03/05/21 17:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 17:56	1
o-terphenyl (Surr)	15	S1-	50 - 150				03/04/21 17:15	03/05/21 17:56	1

**Client Sample ID: MW-526**

**Lab Sample ID: 410-31061-8**

Date Collected: 03/02/21 09:44

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 15:05	1
Dibromofluoromethane (Surr)	107		80 - 120					03/10/21 15:05	1
4-Bromofluorobenzene (Surr)	99		80 - 120					03/10/21 15:05	1
Toluene-d8 (Surr)	95		80 - 120					03/10/21 15:05	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-526**

**Lab Sample ID: 410-31061-8**

Date Collected: 03/02/21 09:44

Matrix: Water

Date Received: 03/03/21 11:40

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 15:46	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 15:46	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 15:46	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 15:46	1
Chrysene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 15:46	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 15:46	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 15:46	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Benzo(a)pyrene-d12 (Surr)	87		10 - 122				03/08/21 09:29	03/09/21 15:46	1
1-Methylnaphthalene-d10 (Surr)	73		49 - 115				03/08/21 09:29	03/09/21 15:46	1
Fluoranthene-d10 (Surr)	116		65 - 129				03/08/21 09:29	03/09/21 15:46	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C7-C12 (1C)</b>	<b>350</b>		250	19	ug/L			03/05/21 06:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150					03/05/21 06:47	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		03/04/21 17:15	03/05/21 18:41	1
C24-C40	ND		260	110	ug/L		03/04/21 17:15	03/05/21 18:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 18:41	1
o-terphenyl (Surr)	38	S1-	50 - 150				03/04/21 17:15	03/05/21 18:41	1

**Client Sample ID: MW-530**

**Lab Sample ID: 410-31061-9**

Date Collected: 03/02/21 13:30

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 15:27	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 15:27	1
Dibromofluoromethane (Surr)	106		80 - 120					03/10/21 15:27	1
4-Bromofluorobenzene (Surr)	95		80 - 120					03/10/21 15:27	1
Toluene-d8 (Surr)	96		80 - 120					03/10/21 15:27	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		03/08/21 09:29	03/09/21 16:14	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 16:14	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 16:14	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 16:14	1
Chrysene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/09/21 16:14	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 16:14	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/09/21 16:14	1

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# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-530**

**Lab Sample ID: 410-31061-9**

Date Collected: 03/02/21 13:30

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	64		10 - 122	03/08/21 09:29	03/09/21 16:14	1
1-Methylnaphthalene-d10 (Surr)	87		49 - 115	03/08/21 09:29	03/09/21 16:14	1
Fluoranthene-d10 (Surr)	102		65 - 129	03/08/21 09:29	03/09/21 16:14	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			03/05/21 07:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150		03/05/21 07:38	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		03/04/21 17:15	03/05/21 19:04	1
C24-C40	ND		250	100	ug/L		03/04/21 17:15	03/05/21 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 19:04	1
o-terphenyl (Surr)	54		50 - 150	03/04/21 17:15	03/05/21 19:04	1

**Client Sample ID: MW-531**

**Lab Sample ID: 410-31061-10**

Date Collected: 03/02/21 10:44

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 11:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/10/21 11:24	1
Dibromofluoromethane (Surr)	107		80 - 120		03/10/21 11:24	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/10/21 11:24	1
Toluene-d8 (Surr)	95		80 - 120		03/10/21 11:24	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		03/08/21 09:29	03/09/21 10:04	1
Benzo[a]pyrene	ND	F1	0.053	0.011	ug/L		03/08/21 09:29	03/09/21 10:04	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 10:04	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 10:04	1
Chrysene	ND		0.053	0.011	ug/L		03/08/21 09:29	03/09/21 10:04	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 10:04	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/08/21 09:29	03/09/21 10:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	43		10 - 122	03/08/21 09:29	03/09/21 10:04	1
1-Methylnaphthalene-d10 (Surr)	80		49 - 115	03/08/21 09:29	03/09/21 10:04	1
Fluoranthene-d10 (Surr)	83		65 - 129	03/08/21 09:29	03/09/21 10:04	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			03/05/21 08:04	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-531**

**Lab Sample ID: 410-31061-10**

Date Collected: 03/02/21 10:44

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene ( <i>fid</i> ) (1C)	84		50 - 150		03/05/21 08:04	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	46	ug/L		03/04/21 17:15	03/05/21 19:27	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 19:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid ( <i>Surr</i> )	0.3		0 - 1	03/04/21 17:15	03/05/21 19:27	1
<i>o</i> -terphenyl ( <i>Surr</i> )	39	S1-	50 - 150	03/04/21 17:15	03/05/21 19:27	1

**Client Sample ID: MW-532**

**Lab Sample ID: 410-31061-11**

Date Collected: 03/02/21 11:36

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 ( <i>Surr</i> )	103		80 - 120		03/10/21 15:49	1
Dibromofluoromethane ( <i>Surr</i> )	107		80 - 120		03/10/21 15:49	1
4-Bromofluorobenzene ( <i>Surr</i> )	95		80 - 120		03/10/21 15:49	1
Toluene-d8 ( <i>Surr</i> )	95		80 - 120		03/10/21 15:49	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		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 17:40	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 17:40	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 17:40	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 17:40	1
Chrysene	ND		0.054	0.011	ug/L		03/08/21 09:29	03/09/21 17:40	1
Dibenz[a,h]anthracene	ND		0.054	0.022	ug/L		03/08/21 09:29	03/09/21 17:40	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.022	ug/L		03/08/21 09:29	03/09/21 17:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 ( <i>Surr</i> )	92		10 - 122	03/08/21 09:29	03/09/21 17:40	1
1-Methylnaphthalene-d10 ( <i>Surr</i> )	83		49 - 115	03/08/21 09:29	03/09/21 17:40	1
Fluoranthene-d10 ( <i>Surr</i> )	88		65 - 129	03/08/21 09:29	03/09/21 17:40	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			03/05/21 09:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene ( <i>fid</i> ) (1C)	83		50 - 150		03/05/21 09:21	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		03/04/21 17:15	03/05/21 20:35	1
C24-C40	ND		270	110	ug/L		03/04/21 17:15	03/05/21 20:35	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Client Sample ID: MW-532

Lab Sample ID: 410-31061-11

Date Collected: 03/02/21 11:36

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 20:35	1
<i>o</i> -terphenyl (Surr)	40	S1-	50 - 150	03/04/21 17:15	03/05/21 20:35	1

## Client Sample ID: MW-533

Lab Sample ID: 410-31061-12

Date Collected: 03/02/21 09:02

Matrix: Water

Date Received: 03/03/21 11:40

### 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			03/10/21 16:11	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/10/21 16:11	1			
Dibromofluoromethane (Surr)	109		80 - 120		03/10/21 16:11	1			
4-Bromofluorobenzene (Surr)	95		80 - 120		03/10/21 16:11	1			
Toluene-d8 (Surr)	95		80 - 120		03/10/21 16:11	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		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 18:08	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 18:08	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 18:08	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 18:08	1
Chrysene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 18:08	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		03/08/21 09:29	03/09/21 18:08	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		03/08/21 09:29	03/09/21 18:08	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Benzo(a)pyrene-d12 (Surr)	78		10 - 122		03/08/21 09:29	03/09/21 18:08	1		
1-Methylnaphthalene-d10 (Surr)	80		49 - 115		03/08/21 09:29	03/09/21 18:08	1		
Fluoranthene-d10 (Surr)	89		65 - 129		03/08/21 09:29	03/09/21 18:08	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			03/05/21 09:46	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 09:46	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	46	ug/L		03/04/21 17:15	03/05/21 20:58	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 20:58	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1		03/04/21 17:15	03/05/21 20:58	1		
<i>o</i> -terphenyl (Surr)	49	S1-	50 - 150		03/04/21 17:15	03/05/21 20:58	1		

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-534**

**Lab Sample ID: 410-31061-13**

Date Collected: 03/02/21 10:42

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 16:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/10/21 16:33	1
Dibromofluoromethane (Surr)	109		80 - 120					03/10/21 16:33	1
4-Bromofluorobenzene (Surr)	94		80 - 120					03/10/21 16:33	1
Toluene-d8 (Surr)	95		80 - 120					03/10/21 16:33	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		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 01:58	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 01:58	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 01:58	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 01:58	1
Chrysene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 01:58	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/10/21 01:58	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/10/21 01:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	36		10 - 122				03/08/21 09:29	03/10/21 01:58	1
1-Methylnaphthalene-d10 (Surr)	80		49 - 115				03/08/21 09:29	03/10/21 01:58	1
Fluoranthene-d10 (Surr)	98		65 - 129				03/08/21 09:29	03/10/21 01:58	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			03/05/21 10:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					03/05/21 10:12	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	46	ug/L		03/04/21 17:15	03/05/21 21:21	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 21:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 21:21	1
o-terphenyl (Surr)	28	S1-	50 - 150				03/04/21 17:15	03/05/21 21:21	1

**Client Sample ID: MW-535**

**Lab Sample ID: 410-31061-14**

Date Collected: 03/02/21 13:02

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 16:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					03/10/21 16:55	1
Dibromofluoromethane (Surr)	109		80 - 120					03/10/21 16:55	1
4-Bromofluorobenzene (Surr)	94		80 - 120					03/10/21 16:55	1
Toluene-d8 (Surr)	95		80 - 120					03/10/21 16:55	1

# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: MW-535**

**Lab Sample ID: 410-31061-14**

Date Collected: 03/02/21 13:02

Matrix: Water

Date Received: 03/03/21 11:40

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/10/21 02:27	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/10/21 02:27	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/10/21 02:27	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/10/21 02:27	1
Chrysene	ND		0.051	0.010	ug/L		03/08/21 09:29	03/10/21 02:27	1
Dibenz(a,h)anthracene	ND		0.051	0.020	ug/L		03/08/21 09:29	03/10/21 02:27	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.020	ug/L		03/08/21 09:29	03/10/21 02:27	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Benzo(a)pyrene-d12 (Surr)	81		10 - 122				03/08/21 09:29	03/10/21 02:27	1
1-Methylnaphthalene-d10 (Surr)	80		49 - 115				03/08/21 09:29	03/10/21 02:27	1
Fluoranthene-d10 (Surr)	91		65 - 129				03/08/21 09:29	03/10/21 02:27	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			03/05/21 10:38	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150					03/05/21 10:38	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		03/04/21 17:15	03/05/21 21:43	1
C24-C40	ND		260	100	ug/L		03/04/21 17:15	03/05/21 21:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Decanoic Acid (Surr)	0.3		0 - 1				03/04/21 17:15	03/05/21 21:43	1
o-terphenyl (Surr)	51		50 - 150				03/04/21 17:15	03/05/21 21:43	1

**Client Sample ID: Dup-4**

**Lab Sample ID: 410-31061-15**

Date Collected: 03/02/21 00:00

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 17:17	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					03/10/21 17:17	1
Dibromofluoromethane (Surr)	110		80 - 120					03/10/21 17:17	1
4-Bromofluorobenzene (Surr)	99		80 - 120					03/10/21 17:17	1
Toluene-d8 (Surr)	95		80 - 120					03/10/21 17:17	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		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 02:55	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 02:55	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 02:55	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 02:55	1
Chrysene	ND		0.052	0.010	ug/L		03/08/21 09:29	03/10/21 02:55	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/10/21 02:55	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/08/21 09:29	03/10/21 02:55	1

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# Client Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: Dup-4**

**Lab Sample ID: 410-31061-15**

Date Collected: 03/02/21 00:00

Matrix: Water

Date Received: 03/03/21 11:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	45		10 - 122	03/08/21 09:29	03/10/21 02:55	1
1-Methylnaphthalene-d10 (Surr)	112		49 - 115	03/08/21 09:29	03/10/21 02:55	1
Fluoranthene-d10 (Surr)	110		65 - 129	03/08/21 09:29	03/10/21 02:55	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	330		250	19	ug/L			03/05/21 11:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		03/05/21 11:03	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		03/04/21 17:15	03/05/21 22:06	1
C24-C40	ND		270	110	ug/L		03/04/21 17:15	03/05/21 22:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 22:06	1
o-terphenyl (Surr)	32	S1-	50 - 150	03/04/21 17:15	03/05/21 22:06	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-31061-16**

Date Collected: 03/02/21 00:00

Matrix: Water

Date Received: 03/03/21 11:40

**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			03/10/21 11:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/10/21 11:01	1
Dibromofluoromethane (Surr)	106		80 - 120		03/10/21 11:01	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/10/21 11:01	1
Toluene-d8 (Surr)	96		80 - 120		03/10/21 11:01	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			03/05/21 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 03:21	1



## Surrogate Summary

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### 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)
410-31061-1	LM-2	101	104	96	97
410-31061-2	MW-ER	101	105	101	94
410-31061-3	MW-101	102	105	98	96
410-31061-4	MW-129R	102	105	97	95
410-31061-5	MW-502	102	105	94	96
410-31061-6	MW-509	102	107	94	96
410-31061-7	MW-525	102	107	96	97
410-31061-8	MW-526	102	107	99	95
410-31061-9	MW-530	102	106	95	96
410-31061-10	MW-531	103	107	95	95
410-31061-10 MS	MW-531	103	107	101	97
410-31061-10 MSD	MW-531	100	104	100	98
410-31061-11	MW-532	103	107	95	95
410-31061-12	MW-533	103	109	95	95
410-31061-13	MW-534	103	109	94	95
410-31061-14	MW-535	105	109	94	95
410-31061-15	Dup-4	106	110	99	95
410-31061-16	Trip Blank	103	106	96	96
LCS 410-101492/5	Lab Control Sample	101	103	99	97
MB 410-101492/7	Method Blank	102	105	95	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)
410-31061-1	LM-2	80	72	94
410-31061-2	MW-ER	81	92	106
410-31061-3	MW-101	54	105	103
410-31061-4	MW-129R	84	89	99
410-31061-5	MW-502	66	82	88
410-31061-6	MW-509	82	79	88
410-31061-7	MW-525	84	82	90
410-31061-8	MW-526	87	73	116
410-31061-9	MW-530	64	87	102
410-31061-10	MW-531	43	80	83
410-31061-10 MS	MW-531	55	85	86
410-31061-10 MSD	MW-531	53	87	96
410-31061-11	MW-532	92	83	88
410-31061-12	MW-533	78	80	89
410-31061-13	MW-534	36	80	98
410-31061-14	MW-535	81	80	91
410-31061-15	Dup-4	45	112	110

## Surrogate Summary

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### 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)
LCS 410-100515/2-A	Lab Control Sample	93	85	96
MB 410-100515/1-A	Method Blank	99	86	97

**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)
410-31061-1	LM-2	83
410-31061-2	MW-ER	83
410-31061-3	MW-101	85
410-31061-4	MW-129R	83
410-31061-5	MW-502	83
410-31061-6	MW-509	83
410-31061-7	MW-525	85
410-31061-8	MW-526	84
410-31061-9	MW-530	84
410-31061-10	MW-531	84
410-31061-10 MS	MW-531	76
410-31061-10 MSD	MW-531	75
410-31061-11	MW-532	83
410-31061-12	MW-533	83
410-31061-13	MW-534	83
410-31061-14	MW-535	83
410-31061-15	Dup-4	85
410-31061-16	Trip Blank	83
LCS 410-99778/5	Lab Control Sample	76
LCSD 410-99778/6	Lab Control Sample Dup	76
MB 410-99778/4	Method Blank	83

**Surrogate Legend**

TFT-F = a,a,a-Trifluorotoluene (fid)

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		NDA (0-1)	OTP (50-150)
410-31061-1	LM-2	0.3	46 S1-
410-31061-1 DU	LM-2	0.3	58
410-31061-2	MW-ER	0.3	69
410-31061-2 DU	MW-ER	0.3	53
410-31061-3	MW-101	0.3	45 S1-
410-31061-4	MW-129R	0.3	58
410-31061-5	MW-502	0.3	62

## Surrogate Summary

Client: Chevron Environmental Management Corp.  
 Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		NDA (0-1)	OTP (50-150)
410-31061-6	MW-509	0.3	53
410-31061-7	MW-525	0.3	15 S1-
410-31061-8	MW-526	0.3	38 S1-
410-31061-9	MW-530	0.3	54
410-31061-10	MW-531	0.3	39 S1-
410-31061-10 MS	MW-531	0.3	61
410-31061-10 MSD	MW-531	1	62
410-31061-11	MW-532	0.3	40 S1-
410-31061-12	MW-533	0.3	49 S1-
410-31061-13	MW-534	0.3	28 S1-
410-31061-14	MW-535	0.3	51
410-31061-15	Dup-4	0.3	32 S1-
LCS 410-99750/2-B	Lab Control Sample	0.1	63
MB 410-99750/1-B	Method Blank	0.3	61

**Surrogate Legend**

NDA = n-Decanoic Acid (Surr)

OTP = o- terphenyl (Surr)



# QC Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-101492/7

Matrix: Water

Analysis Batch: 101492

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			03/10/21 10:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 10:17	1
Dibromofluoromethane (Surr)	105		80 - 120					03/10/21 10:17	1
4-Bromofluorobenzene (Surr)	95		80 - 120					03/10/21 10:17	1
Toluene-d8 (Surr)	95		80 - 120					03/10/21 10:17	1

Lab Sample ID: LCS 410-101492/5

Matrix: Water

Analysis Batch: 101492

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		95	80 - 120
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	101		80 - 120				
Dibromofluoromethane (Surr)	103		80 - 120				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Toluene-d8 (Surr)	97		80 - 120				

Lab Sample ID: 410-31061-10 MS

Matrix: Water

Analysis Batch: 101492

Client Sample ID: MW-531

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	19.9		ug/L		100	80 - 120
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		80 - 120						
Dibromofluoromethane (Surr)	107		80 - 120						
4-Bromofluorobenzene (Surr)	101		80 - 120						
Toluene-d8 (Surr)	97		80 - 120						

Lab Sample ID: 410-31061-10 MSD

Matrix: Water

Analysis Batch: 101492

Client Sample ID: MW-531

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	20.4		ug/L		102	80 - 120	3	30
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		80 - 120								
Dibromofluoromethane (Surr)	104		80 - 120								
4-Bromofluorobenzene (Surr)	100		80 - 120								
Toluene-d8 (Surr)	98		80 - 120								

# QC Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-100515/1-A

Matrix: Water

Analysis Batch: 100939

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100515

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzo[a]anthracene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 07:12	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 07:12	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 07:12	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 07:12	1
Chrysene	ND		0.050	0.010	ug/L		03/08/21 09:29	03/09/21 07:12	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		03/08/21 09:29	03/09/21 07:12	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		03/08/21 09:29	03/09/21 07:12	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Benzo(a)pyrene-d12 (Surr)	99		10 - 122	03/08/21 09:29	03/09/21 07:12	1
1-Methylnaphthalene-d10 (Surr)	86		49 - 115	03/08/21 09:29	03/09/21 07:12	1
Fluoranthene-d10 (Surr)	97		65 - 129	03/08/21 09:29	03/09/21 07:12	1

Lab Sample ID: LCS 410-100515/2-A

Matrix: Water

Analysis Batch: 100939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]pyrene	1.00	1.01		ug/L		101	73 - 117
Benzo[b]fluoranthene	1.00	1.01		ug/L		101	72 - 123
Benzo[k]fluoranthene	1.00	0.995		ug/L		99	66 - 124
Chrysene	1.00	0.914		ug/L		91	61 - 117
Dibenz(a,h)anthracene	1.00	0.987		ug/L		99	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	1.04		ug/L		104	57 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	93		10 - 122
1-Methylnaphthalene-d10 (Surr)	85		49 - 115
Fluoranthene-d10 (Surr)	96		65 - 129

Lab Sample ID: 410-31061-10 MS

Matrix: Water

Analysis Batch: 100939

Client Sample ID: MW-531

Prep Type: Total/NA

Prep Batch: 100515

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier							
Benzo[a]anthracene	ND		1.04	0.947		ug/L		91	69 - 119
Benzo[a]pyrene	ND	F1	1.04	0.677	F1	ug/L		65	73 - 117
Benzo[b]fluoranthene	ND		1.04	0.939		ug/L		90	72 - 123
Benzo[k]fluoranthene	ND		1.04	0.902		ug/L		87	66 - 124
Chrysene	ND		1.04	0.897		ug/L		86	61 - 117
Dibenz(a,h)anthracene	ND		1.04	0.869		ug/L		83	60 - 118
Indeno[1,2,3-cd]pyrene	ND		1.04	0.866		ug/L		83	57 - 134

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	55		10 - 122
1-Methylnaphthalene-d10 (Surr)	85		49 - 115

# QC Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 410-31061-10 MS**  
**Matrix: Water**  
**Analysis Batch: 100939**

**Client Sample ID: MW-531**  
**Prep Type: Total/NA**  
**Prep Batch: 100515**

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Fluoranthene-d10 (Surr)	86		65 - 129

**Lab Sample ID: 410-31061-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 100939**

**Client Sample ID: MW-531**  
**Prep Type: Total/NA**  
**Prep Batch: 100515**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits	RPD	Limit	
Benzo[a]anthracene	ND		1.05	0.971		ug/L		92	69 - 119	3	30	
Benzo[a]pyrene	ND	F1	1.05	0.667	F1	ug/L		63	73 - 117	1	30	
Benzo[b]fluoranthene	ND		1.05	0.966		ug/L		92	72 - 123	3	30	
Benzo[k]fluoranthene	ND		1.05	0.927		ug/L		88	66 - 124	3	30	
Chrysene	ND		1.05	0.939		ug/L		89	61 - 117	5	30	
Dibenz(a,h)anthracene	ND		1.05	0.873		ug/L		83	60 - 118	0	30	
Indeno[1,2,3-cd]pyrene	ND		1.05	0.863		ug/L		82	57 - 134	0	30	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	53		10 - 122
1-Methylnaphthalene-d10 (Surr)	87		49 - 115
Fluoranthene-d10 (Surr)	96		65 - 129

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

**Lab Sample ID: MB 410-99778/4**  
**Matrix: Water**  
**Analysis Batch: 99778**

**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			03/05/21 01:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150		03/05/21 01:12	1

**Lab Sample ID: LCS 410-99778/5**  
**Matrix: Water**  
**Analysis Batch: 99778**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
C7-C12 (1C)	1100	1050		ug/L		96	64 - 131	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	76		50 - 150

**Lab Sample ID: LCSD 410-99778/6**  
**Matrix: Water**  
**Analysis Batch: 99778**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
C7-C12 (1C)	1100	1060		ug/L		97	64 - 131	1	30	

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# QC Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	76		50 - 150

Lab Sample ID: 410-31061-10 MS  
Matrix: Water  
Analysis Batch: 99778

Client Sample ID: MW-531  
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
C7-C12 (1C)	ND		1120	1170		ug/L		105	80 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	76		50 - 150

Lab Sample ID: 410-31061-10 MSD  
Matrix: Water  
Analysis Batch: 99778

Client Sample ID: MW-531  
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
C7-C12 (1C)	ND		1120	1190		ug/L		106	80 - 120	1	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	75		50 - 150

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-99750/1-B  
Matrix: Water  
Analysis Batch: 99964

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 99750

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		03/04/21 17:15	03/05/21 13:41	1
C24-C40	ND		250	100	ug/L		03/04/21 17:15	03/05/21 13:41	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
n-Decanoic Acid (Surr)	0.3		0 - 1	03/04/21 17:15	03/05/21 13:41	1
o-terphenyl (Surr)	61		50 - 150	03/04/21 17:15	03/05/21 13:41	1

Lab Sample ID: LCS 410-99750/2-B  
Matrix: Water  
Analysis Batch: 99964

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 99750

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec. Limits
	Added	Result	Qualifier				
C12-C24	602	300		ug/L		50	10 - 115

Surrogate	LCS		Limits
	%Recovery	Qualifier	
n-Decanoic Acid (Surr)	0.1		0 - 1
o-terphenyl (Surr)	63		50 - 150

# QC Sample Results

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

**Lab Sample ID: 410-31061-10 MS**

**Matrix: Water**

**Analysis Batch: 99964**

**Client Sample ID: MW-531**

**Prep Type: Total/NA**

**Prep Batch: 99750**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
C12-C24	ND		623	260		ug/L		42		30 - 115
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>							
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1							
<i>o-terphenyl (Surr)</i>	61		50 - 150							

**Lab Sample ID: 410-31061-10 MSD**

**Matrix: Water**

**Analysis Batch: 99964**

**Client Sample ID: MW-531**

**Prep Type: Total/NA**

**Prep Batch: 99750**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						RPD	Limit
C12-C24	ND		639	270		ug/L		42		30 - 115	4	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>									
<i>n-Decanoic Acid (Surr)</i>	1		0 - 1									
<i>o-terphenyl (Surr)</i>	62		50 - 150									

**Lab Sample ID: 410-31061-1 DU**

**Matrix: Water**

**Analysis Batch: 99964**

**Client Sample ID: LM-2**

**Prep Type: Total/NA**

**Prep Batch: 99750**

Analyte	Sample	Sample	Unit	D	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier								
C12-C24	ND		ug/L		ND		ug/L		NC	20
C24-C40	ND		ug/L		ND		ug/L		NC	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>DU Qualifier</b>	<b>Limits</b>							
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1							
<i>o-terphenyl (Surr)</i>	58		50 - 150							

**Lab Sample ID: 410-31061-2 DU**

**Matrix: Water**

**Analysis Batch: 99964**

**Client Sample ID: MW-ER**

**Prep Type: Total/NA**

**Prep Batch: 99750**

Analyte	Sample	Sample	Unit	D	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier								
C12-C24	72	J	ug/L		74.5	J	ug/L		4	20
C24-C40	ND		ug/L		ND		ug/L		NC	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>DU Qualifier</b>	<b>Limits</b>							
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1							
<i>o-terphenyl (Surr)</i>	53		50 - 150							



# QC Association Summary

Client: Chevron Environmental Management Corp.  
 Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## GC/MS VOA

### Analysis Batch: 101492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	8260D	
410-31061-2	MW-ER	Total/NA	Water	8260D	
410-31061-3	MW-101	Total/NA	Water	8260D	
410-31061-4	MW-129R	Total/NA	Water	8260D	
410-31061-5	MW-502	Total/NA	Water	8260D	
410-31061-6	MW-509	Total/NA	Water	8260D	
410-31061-7	MW-525	Total/NA	Water	8260D	
410-31061-8	MW-526	Total/NA	Water	8260D	
410-31061-9	MW-530	Total/NA	Water	8260D	
410-31061-10	MW-531	Total/NA	Water	8260D	
410-31061-11	MW-532	Total/NA	Water	8260D	
410-31061-12	MW-533	Total/NA	Water	8260D	
410-31061-13	MW-534	Total/NA	Water	8260D	
410-31061-14	MW-535	Total/NA	Water	8260D	
410-31061-15	Dup-4	Total/NA	Water	8260D	
410-31061-16	Trip Blank	Total/NA	Water	8260D	
MB 410-101492/7	Method Blank	Total/NA	Water	8260D	
LCS 410-101492/5	Lab Control Sample	Total/NA	Water	8260D	
410-31061-10 MS	MW-531	Total/NA	Water	8260D	
410-31061-10 MSD	MW-531	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 100515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	3510C	
410-31061-2	MW-ER	Total/NA	Water	3510C	
410-31061-3	MW-101	Total/NA	Water	3510C	
410-31061-4	MW-129R	Total/NA	Water	3510C	
410-31061-5	MW-502	Total/NA	Water	3510C	
410-31061-6	MW-509	Total/NA	Water	3510C	
410-31061-7	MW-525	Total/NA	Water	3510C	
410-31061-8	MW-526	Total/NA	Water	3510C	
410-31061-9	MW-530	Total/NA	Water	3510C	
410-31061-10	MW-531	Total/NA	Water	3510C	
410-31061-11	MW-532	Total/NA	Water	3510C	
410-31061-12	MW-533	Total/NA	Water	3510C	
410-31061-13	MW-534	Total/NA	Water	3510C	
410-31061-14	MW-535	Total/NA	Water	3510C	
410-31061-15	Dup-4	Total/NA	Water	3510C	
MB 410-100515/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-100515/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-31061-10 MS	MW-531	Total/NA	Water	3510C	
410-31061-10 MSD	MW-531	Total/NA	Water	3510C	

### Analysis Batch: 100939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	8270D SIM	100515
410-31061-2	MW-ER	Total/NA	Water	8270D SIM	100515
410-31061-3	MW-101	Total/NA	Water	8270D SIM	100515
410-31061-4	MW-129R	Total/NA	Water	8270D SIM	100515

# QC Association Summary

Client: Chevron Environmental Management Corp.  
 Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 100939 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-5	MW-502	Total/NA	Water	8270D SIM	100515
410-31061-6	MW-509	Total/NA	Water	8270D SIM	100515
410-31061-7	MW-525	Total/NA	Water	8270D SIM	100515
410-31061-8	MW-526	Total/NA	Water	8270D SIM	100515
410-31061-9	MW-530	Total/NA	Water	8270D SIM	100515
410-31061-10	MW-531	Total/NA	Water	8270D SIM	100515
410-31061-11	MW-532	Total/NA	Water	8270D SIM	100515
410-31061-12	MW-533	Total/NA	Water	8270D SIM	100515
MB 410-100515/1-A	Method Blank	Total/NA	Water	8270D SIM	100515
LCS 410-100515/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	100515
410-31061-10 MS	MW-531	Total/NA	Water	8270D SIM	100515
410-31061-10 MSD	MW-531	Total/NA	Water	8270D SIM	100515

### Analysis Batch: 101391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-13	MW-534	Total/NA	Water	8270D SIM	100515
410-31061-14	MW-535	Total/NA	Water	8270D SIM	100515
410-31061-15	Dup-4	Total/NA	Water	8270D SIM	100515

## GC VOA

### Analysis Batch: 99778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	NWTPH-Gx	
410-31061-2	MW-ER	Total/NA	Water	NWTPH-Gx	
410-31061-3	MW-101	Total/NA	Water	NWTPH-Gx	
410-31061-4	MW-129R	Total/NA	Water	NWTPH-Gx	
410-31061-5	MW-502	Total/NA	Water	NWTPH-Gx	
410-31061-6	MW-509	Total/NA	Water	NWTPH-Gx	
410-31061-7	MW-525	Total/NA	Water	NWTPH-Gx	
410-31061-8	MW-526	Total/NA	Water	NWTPH-Gx	
410-31061-9	MW-530	Total/NA	Water	NWTPH-Gx	
410-31061-10	MW-531	Total/NA	Water	NWTPH-Gx	
410-31061-11	MW-532	Total/NA	Water	NWTPH-Gx	
410-31061-12	MW-533	Total/NA	Water	NWTPH-Gx	
410-31061-13	MW-534	Total/NA	Water	NWTPH-Gx	
410-31061-14	MW-535	Total/NA	Water	NWTPH-Gx	
410-31061-15	Dup-4	Total/NA	Water	NWTPH-Gx	
410-31061-16	Trip Blank	Total/NA	Water	NWTPH-Gx	
MB 410-99778/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-99778/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-99778/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-31061-10 MS	MW-531	Total/NA	Water	NWTPH-Gx	
410-31061-10 MSD	MW-531	Total/NA	Water	NWTPH-Gx	

## GC Semi VOA

### Prep Batch: 99750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	3510C	
410-31061-2	MW-ER	Total/NA	Water	3510C	
410-31061-3	MW-101	Total/NA	Water	3510C	

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# QC Association Summary

Client: Chevron Environmental Management Corp.  
 Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## GC Semi VOA (Continued)

### Prep Batch: 99750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-4	MW-129R	Total/NA	Water	3510C	
410-31061-5	MW-502	Total/NA	Water	3510C	
410-31061-6	MW-509	Total/NA	Water	3510C	
410-31061-7	MW-525	Total/NA	Water	3510C	
410-31061-8	MW-526	Total/NA	Water	3510C	
410-31061-9	MW-530	Total/NA	Water	3510C	
410-31061-10	MW-531	Total/NA	Water	3510C	
410-31061-11	MW-532	Total/NA	Water	3510C	
410-31061-12	MW-533	Total/NA	Water	3510C	
410-31061-13	MW-534	Total/NA	Water	3510C	
410-31061-14	MW-535	Total/NA	Water	3510C	
410-31061-15	Dup-4	Total/NA	Water	3510C	
MB 410-99750/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-99750/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-31061-10 MS	MW-531	Total/NA	Water	3510C	
410-31061-10 MSD	MW-531	Total/NA	Water	3510C	
410-31061-1 DU	LM-2	Total/NA	Water	3510C	
410-31061-2 DU	MW-ER	Total/NA	Water	3510C	

### Cleanup Batch: 99945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	3630C	99750
410-31061-2	MW-ER	Total/NA	Water	3630C	99750
410-31061-3	MW-101	Total/NA	Water	3630C	99750
410-31061-4	MW-129R	Total/NA	Water	3630C	99750
410-31061-5	MW-502	Total/NA	Water	3630C	99750
410-31061-6	MW-509	Total/NA	Water	3630C	99750
410-31061-7	MW-525	Total/NA	Water	3630C	99750
410-31061-8	MW-526	Total/NA	Water	3630C	99750
410-31061-9	MW-530	Total/NA	Water	3630C	99750
410-31061-10	MW-531	Total/NA	Water	3630C	99750
410-31061-11	MW-532	Total/NA	Water	3630C	99750
410-31061-12	MW-533	Total/NA	Water	3630C	99750
410-31061-13	MW-534	Total/NA	Water	3630C	99750
410-31061-14	MW-535	Total/NA	Water	3630C	99750
410-31061-15	Dup-4	Total/NA	Water	3630C	99750
MB 410-99750/1-B	Method Blank	Total/NA	Water	3630C	99750
LCS 410-99750/2-B	Lab Control Sample	Total/NA	Water	3630C	99750
410-31061-10 MS	MW-531	Total/NA	Water	3630C	99750
410-31061-10 MSD	MW-531	Total/NA	Water	3630C	99750
410-31061-1 DU	LM-2	Total/NA	Water	3630C	99750
410-31061-2 DU	MW-ER	Total/NA	Water	3630C	99750

### Analysis Batch: 99964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1	LM-2	Total/NA	Water	NWTPH-Dx	99945
410-31061-2	MW-ER	Total/NA	Water	NWTPH-Dx	99945
410-31061-3	MW-101	Total/NA	Water	NWTPH-Dx	99945
410-31061-4	MW-129R	Total/NA	Water	NWTPH-Dx	99945
410-31061-5	MW-502	Total/NA	Water	NWTPH-Dx	99945
410-31061-6	MW-509	Total/NA	Water	NWTPH-Dx	99945

# QC Association Summary

Client: Chevron Environmental Management Corp.  
 Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## GC Semi VOA (Continued)

### Analysis Batch: 99964 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-7	MW-525	Total/NA	Water	NWTPH-Dx	99945
410-31061-8	MW-526	Total/NA	Water	NWTPH-Dx	99945
410-31061-9	MW-530	Total/NA	Water	NWTPH-Dx	99945
410-31061-10	MW-531	Total/NA	Water	NWTPH-Dx	99945
410-31061-11	MW-532	Total/NA	Water	NWTPH-Dx	99945
410-31061-12	MW-533	Total/NA	Water	NWTPH-Dx	99945
410-31061-13	MW-534	Total/NA	Water	NWTPH-Dx	99945
410-31061-14	MW-535	Total/NA	Water	NWTPH-Dx	99945
410-31061-15	Dup-4	Total/NA	Water	NWTPH-Dx	99945
MB 410-99750/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	99945
LCS 410-99750/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	99945
410-31061-10 MS	MW-531	Total/NA	Water	NWTPH-Dx	99945
410-31061-10 MSD	MW-531	Total/NA	Water	NWTPH-Dx	99945
410-31061-1 DU	LM-2	Total/NA	Water	NWTPH-Dx	99945
410-31061-2 DU	MW-ER	Total/NA	Water	NWTPH-Dx	99945

### Prep Batch: 101999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1 - RE	LM-2	Total/NA	Water	3510C	
410-31061-3 - RE	MW-101	Total/NA	Water	3510C	
410-31061-7 - RE	MW-525	Total/NA	Water	3510C	
410-31061-8 - RE	MW-526	Total/NA	Water	3510C	
410-31061-10 - RE	MW-531	Total/NA	Water	3510C	
410-31061-11 - RE	MW-532	Total/NA	Water	3510C	
410-31061-12 - RE	MW-533	Total/NA	Water	3510C	
410-31061-13 - RE	MW-534	Total/NA	Water	3510C	
410-31061-15 - RE	Dup-4	Total/NA	Water	3510C	
MB 410-101999/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-101999/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-31061-10 MS - RE	MW-531	Total/NA	Water	3510C	
410-31061-10 MSD - RE	MW-531	Total/NA	Water	3510C	
410-31061-3 DU - RE	MW-101	Total/NA	Water	3510C	

### Cleanup Batch: 102445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1 - RE	LM-2	Total/NA	Water	3630C	101999
410-31061-3 - RE	MW-101	Total/NA	Water	3630C	101999
410-31061-7 - RE	MW-525	Total/NA	Water	3630C	101999
410-31061-8 - RE	MW-526	Total/NA	Water	3630C	101999
410-31061-10 - RE	MW-531	Total/NA	Water	3630C	101999
410-31061-11 - RE	MW-532	Total/NA	Water	3630C	101999
410-31061-12 - RE	MW-533	Total/NA	Water	3630C	101999
410-31061-13 - RE	MW-534	Total/NA	Water	3630C	101999
410-31061-15 - RE	Dup-4	Total/NA	Water	3630C	101999
MB 410-101999/1-B	Method Blank	Total/NA	Water	3630C	101999
LCS 410-101999/2-B	Lab Control Sample	Total/NA	Water	3630C	101999
410-31061-10 MS - RE	MW-531	Total/NA	Water	3630C	101999
410-31061-10 MSD - RE	MW-531	Total/NA	Water	3630C	101999
410-31061-3 DU - RE	MW-101	Total/NA	Water	3630C	101999

# QC Association Summary

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## GC Semi VOA

### Analysis Batch: 102599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31061-1 - RE	LM-2	Total/NA	Water	NWTPH-Dx	102445
410-31061-3 - RE	MW-101	Total/NA	Water	NWTPH-Dx	102445
410-31061-7 - RE	MW-525	Total/NA	Water	NWTPH-Dx	102445
410-31061-8 - RE	MW-526	Total/NA	Water	NWTPH-Dx	102445
410-31061-10 - RE	MW-531	Total/NA	Water	NWTPH-Dx	102445
410-31061-11 - RE	MW-532	Total/NA	Water	NWTPH-Dx	102445
410-31061-12 - RE	MW-533	Total/NA	Water	NWTPH-Dx	102445
410-31061-13 - RE	MW-534	Total/NA	Water	NWTPH-Dx	102445
410-31061-15 - RE	Dup-4	Total/NA	Water	NWTPH-Dx	102445
MB 410-101999/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	102445
LCS 410-101999/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	102445
410-31061-10 MS - RE	MW-531	Total/NA	Water	NWTPH-Dx	102445
410-31061-10 MSD - RE	MW-531	Total/NA	Water	NWTPH-Dx	102445
410-31061-3 DU - RE	MW-101	Total/NA	Water	NWTPH-Dx	102445

# Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: LM-2**

**Lab Sample ID: 410-31061-1**

Date Collected: 03/02/21 13:36

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 12:30	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 12:27	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 03:47	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 14:27	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 05:14	UHEW	ELLE

**Client Sample ID: MW-ER**

**Lab Sample ID: 410-31061-2**

Date Collected: 03/02/21 10:00

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 12:52	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 12:55	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 04:12	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 15:12	KP5X	ELLE

**Client Sample ID: MW-101**

**Lab Sample ID: 410-31061-3**

Date Collected: 03/02/21 13:04

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 13:14	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 13:24	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 04:38	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 15:57	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 05:36	UHEW	ELLE

## Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Client Sample ID: MW-129R

Lab Sample ID: 410-31061-4

Date Collected: 03/02/21 09:10

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 13:36	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 13:52	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 05:04	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 16:20	KP5X	ELLE

### Client Sample ID: MW-502

Lab Sample ID: 410-31061-5

Date Collected: 03/02/21 11:30

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 13:58	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 14:21	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 05:29	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 16:43	KP5X	ELLE

### Client Sample ID: MW-509

Lab Sample ID: 410-31061-6

Date Collected: 03/02/21 11:42

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 14:21	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 14:49	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 05:55	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 17:06	KP5X	ELLE

### Client Sample ID: MW-525

Lab Sample ID: 410-31061-7

Date Collected: 03/02/21 10:16

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 14:43	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 15:18	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 06:21	JJT8	ELLE

## Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Client Sample ID: MW-525

Lab Sample ID: 410-31061-7

Date Collected: 03/02/21 10:16

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 17:56	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 06:22	UHEW	ELLE

### Client Sample ID: MW-526

Lab Sample ID: 410-31061-8

Date Collected: 03/02/21 09:44

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 15:05	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 15:46	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 06:47	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 18:41	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 06:44	UHEW	ELLE

### Client Sample ID: MW-530

Lab Sample ID: 410-31061-9

Date Collected: 03/02/21 13:30

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 15:27	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 16:14	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 07:38	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 19:04	KP5X	ELLE

### Client Sample ID: MW-531

Lab Sample ID: 410-31061-10

Date Collected: 03/02/21 10:44

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 11:24	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 10:04	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 08:04	JJT8	ELLE



## Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Client Sample ID: MW-531

Lab Sample ID: 410-31061-10

Date Collected: 03/02/21 10:44

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 19:27	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 07:30	UHEW	ELLE

### Client Sample ID: MW-532

Lab Sample ID: 410-31061-11

Date Collected: 03/02/21 11:36

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 15:49	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 17:40	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 09:21	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 20:35	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 08:38	UHEW	ELLE

### Client Sample ID: MW-533

Lab Sample ID: 410-31061-12

Date Collected: 03/02/21 09:02

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 16:11	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	100939	03/09/21 18:08	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 09:46	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 20:58	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 09:01	UHEW	ELLE

### Client Sample ID: MW-534

Lab Sample ID: 410-31061-13

Date Collected: 03/02/21 10:42

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 16:33	LCW8	ELLE

## Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

### Client Sample ID: MW-534

Lab Sample ID: 410-31061-13

Date Collected: 03/02/21 10:42

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	101391	03/10/21 01:58	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 10:12	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 21:21	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 09:23	UHEW	ELLE

### Client Sample ID: MW-535

Lab Sample ID: 410-31061-14

Date Collected: 03/02/21 13:02

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 16:55	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	101391	03/10/21 02:27	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 10:38	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 21:43	KP5X	ELLE

### Client Sample ID: Dup-4

Lab Sample ID: 410-31061-15

Date Collected: 03/02/21 00:00

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 17:17	LCW8	ELLE
Total/NA	Prep	3510C			100515	03/08/21 09:29	QTH7	ELLE
Total/NA	Analysis	8270D SIM		1	101391	03/10/21 02:55	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 11:03	JJT8	ELLE
Total/NA	Prep	3510C			99750	03/04/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			99945	03/05/21 01:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 22:06	KP5X	ELLE
Total/NA	Prep	3510C	RE		101999	03/11/21 10:45	R9CT	ELLE
Total/NA	Cleanup	3630C	RE		102445	03/12/21 01:35	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx	RE	1	102599	03/13/21 09:46	UHEW	ELLE

### Client Sample ID: Trip Blank

Lab Sample ID: 410-31061-16

Date Collected: 03/02/21 00:00

Matrix: Water

Date Received: 03/03/21 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101492	03/10/21 11:01	LCW8	ELLE

# Lab Chronicle

Client: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-31061-16**

**Date Collected: 03/02/21 00:00**

**Matrix: Water**

**Date Received: 03/03/21 11:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	99778	03/05/21 03:21	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: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

## 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: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

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	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: Chevron Environmental Management Corp.  
Project/Site: Edmonds Terminal

Job ID: 410-31061-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-31061-1	LM-2	Water	03/02/21 13:36	03/03/21 11:40	
410-31061-2	MW-ER	Water	03/02/21 10:00	03/03/21 11:40	
410-31061-3	MW-101	Water	03/02/21 13:04	03/03/21 11:40	
410-31061-4	MW-129R	Water	03/02/21 09:10	03/03/21 11:40	
410-31061-5	MW-502	Water	03/02/21 11:30	03/03/21 11:40	
410-31061-6	MW-509	Water	03/02/21 11:42	03/03/21 11:40	
410-31061-7	MW-525	Water	03/02/21 10:16	03/03/21 11:40	
410-31061-8	MW-526	Water	03/02/21 09:44	03/03/21 11:40	
410-31061-9	MW-530	Water	03/02/21 13:30	03/03/21 11:40	
410-31061-10	MW-531	Water	03/02/21 10:44	03/03/21 11:40	
410-31061-11	MW-532	Water	03/02/21 11:36	03/03/21 11:40	
410-31061-12	MW-533	Water	03/02/21 09:02	03/03/21 11:40	
410-31061-13	MW-534	Water	03/02/21 10:42	03/03/21 11:40	
410-31061-14	MW-535	Water	03/02/21 13:02	03/03/21 11:40	
410-31061-15	Dup-4	Water	03/02/21 00:00	03/03/21 11:40	
410-31061-16	Trip Blank	Water	03/02/21 00:00	03/03/21 11:40	

# Chevron Northwest Region Analysis Requ



Lancaster Laboratories

Acct. # \_\_\_\_\_ Group # \_\_\_\_\_ For Lancaster Laboratories use only  
 Sample # \_\_\_\_\_ Instructions on reverse side correspond with circled numbers



410-31061 Chain of Custody

ody

<b>1 Client Information</b>			<b>4 Matrix</b>			<b>5 Analyses Requested</b>										<b>6 Remarks</b>	
Facility # <u>Edmonds Terminal</u> WBS Site Address <u>11720 UNCLE RD, Edmonds WA Arcadis</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant Consultant/Office <u>Seattle 1100 Olive way, suite 800, Seattle</u> Consultant Project Mgr. <u>Gary Miles</u> 48101 Consultant Phone # _____			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"/> Oil <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 <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method _____ WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> CPAS 8270 C 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	
Sampler <u>Daniel Gilbert, Kiley Zubi, RYAN Branch 19, Julia Kidorish</u>			<b>3</b>														
<b>2 Sample Identification</b>																	
			Collected														
			Date Time														
			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														
			CPAS 8270 C SIM														
			*use standard SGC														
			page 1 of 2														
<b>7 Turnaround Time Requested (TAT) (please circle)</b>			Relinquished by			Date		Time		Received by		Date		Time			
Standard 5 day 4 day 72 hour 48 hour 24 hour			Ryan Branch 19			3-2-21		1530		FedEx							
<b>8 Data Package Options (please circle if required)</b>			Relinquished by Commerical Carrier:			Date		Time		Received by		Date		Time			
Type I - Full Type VI (Raw Data)			UPS _____ FedEx <input checked="" type="checkbox"/> Other _____			3/2/21		1140		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 Client Information			4 Matrix			5 Analyses Requested										6 Remarks	
Facility # <u>Edmonds Terminal</u> WBS Site Address <u>11720 Unoco Rd, Edmonds WA Arcadis</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant Consultant/Office <u>Seattle 1100 Olive way, suite 800, Seattle 98101</u> Consultant Project Mgr. <u>Sam Miles</u> 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"/> 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Napthth <u>8260 full scan</u> 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 _____ WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> <u>CPAHs 8-2-20 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	
2 Sample Identification Collected Date Time MW-533 3-2-21 0902 MW-534 1042 MW-535 1302 DUP-4 TRIP BLANK - -			3 Sampler <u>Daniel Gilbert, Kiley Zamb, Ryan Brauchk, Julia Vidonish</u>			Grab Composite Soil <input type="checkbox"/> Water <input checked="" type="checkbox"/> Oil <input type="checkbox"/>										* use standard SGC	
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 Brauchk</u> Date <u>3-2-21</u> Time <u>1530</u>			Received by <u>FedEx</u> Date _____ Time _____					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>3/3/21</u> Time <u>1140</u>					Temperature Upon Receipt <u>11.0-13.0°C</u> Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						

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page 2 of 2



## Login Sample Receipt Checklist

Client: Chevron Environmental Management Corp.

Job Number: 410-31061-1

**Login Number: 31061**

**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.	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: 410-31301-1  
Client Project/Site: Edmonds Terminal  
Revision: 3

For:  
ARCADIS U.S., Inc.  
1100 Olive Way  
Suite 800  
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:  
4/19/2021 3:14:33 PM

Amek Carter, Project Manager  
(717)556-7252  
[Loran.Carter@eurofinset.com](mailto:Loran.Carter@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

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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 that reads "Amek Carter".

---

Amek Carter  
Project Manager  
4/19/2021 3:14:33 PM



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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## 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
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
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
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: 410-31301-1

## Job ID: 410-31301-1

### Laboratory: Eurofins Lancaster Laboratories Env, LLC

#### Narrative

#### Job Narrative 410-31301-1

#### Revision

The report being provided is a revision of the original report sent on 3/19/2021. The report (revision 3) is being revised due to: Revised Report - Report second trial results.

#### Receipt

The samples were received on 3/5/2021 11:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.5° C, 0.8° C, 1.0° C and 1.3° C.

#### Receipt Exceptions

The following samples were submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MW-8R-W-210303 (410-31301-17) and MW-522-W-210303 (410-31301-18)

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-513-W-210303 (410-31301-8). The container labels list time of 13:34, while the COC lists time of 13:24.

#### 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.

#### 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 laboratory control sample (LCS) recovered outside upper control limits for C12-C24. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported. MW-139R-W-210303 (410-31301-1)

Method NWTPH-Dx: The laboratory control sample (LCS) recovered outside upper control limits for the following analytes: C12-C24. The associated sample(s) was re-prepared outside holding time and the LCS is within control limits. Results are reported from the second trial per client request. MW-504-W-210303 (410-31301-2), MW-505-W-210303 (410-31301-3), MW-506-W-210303 (410-31301-4), MW-507-W-210303 (410-31301-5), MW-507-W-210303 (410-31301-5[MS]), MW-507-W-210303 (410-31301-5[MSD]), MW-511-W-210303 (410-31301-6), MW-512-W-210303 (410-31301-7), MW-20R-W-210303 (410-31301-14), MW-143-W-210303 (410-31301-15), MW-8R-W-210303 (410-31301-17), MW-522-W-210303 (410-31301-18), (410-31301-D-2-C DU) and (410-31301-D-3-B DU)

Method NWTPH-Dx: Surrogate recovery for the following samples were outside control limits: MW-515-W-210303 (410-31301-10), MW-516-W-210303 (410-31301-11), MW-517-W-210303 (410-31301-12) and MW-520-W-210303 (410-31301-13). Re-extraction was performed outside of holding time with acceptable results. Results are reported from the second trial per client request.

Method NWTPH-Dx: The laboratory control sample (LCS) recovered outside upper control limits for the following analytes: C12-C24. The associated sample(s) was re-prepared outside holding time and the LCS is within control limits. Results are reported from the second trial per client request. MW-515-W-210303 (410-31301-10), MW-516-W-210303 (410-31301-11), MW-517-W-210303 (410-31301-12) and MW-520-W-210303 (410-31301-13)

No additional analytical or quality issues were noted, other than those described above or 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: 410-31301-1

## Client Sample ID: MW-139R-W-210303

Lab Sample ID: 410-31301-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	58	J*	100	46	ug/L	1		NWTPH-Dx	Total/NA

## Client Sample ID: MW-504-W-210303

Lab Sample ID: 410-31301-2

No Detections.

## Client Sample ID: MW-505-W-210303

Lab Sample ID: 410-31301-3

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-506-W-210303

Lab Sample ID: 410-31301-4

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-507-W-210303

Lab Sample ID: 410-31301-5

No Detections.

## Client Sample ID: MW-511-W-210303

Lab Sample ID: 410-31301-6

No Detections.

## Client Sample ID: MW-512-W-210303

Lab Sample ID: 410-31301-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	47	J	250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: MW-513-W-210303

Lab Sample ID: 410-31301-8

No Detections.

## Client Sample ID: MW-514-W-210303

Lab Sample ID: 410-31301-9

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

## Client Sample ID: MW-515-W-210303

Lab Sample ID: 410-31301-10

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

## Client Sample ID: MW-516-W-210303

Lab Sample ID: 410-31301-11

No Detections.

## Client Sample ID: MW-517-W-210303

Lab Sample ID: 410-31301-12

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-520-W-210303

Lab Sample ID: 410-31301-13

No Detections.

## Client Sample ID: MW-20R-W-210303

Lab Sample ID: 410-31301-14

No Detections.

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: 410-31301-1

## Client Sample ID: MW-143-W-210303

Lab Sample ID: 410-31301-15

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

## Client Sample ID: QA-T-210303

Lab Sample ID: 410-31301-16

No Detections.

## Client Sample ID: MW-8R-W-210303

Lab Sample ID: 410-31301-17

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

## Client Sample ID: MW-522-W-210303

Lab Sample ID: 410-31301-18

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: 410-31301-1

**Client Sample ID: MW-139R-W-210303**

**Lab Sample ID: 410-31301-1**

Date Collected: 03/03/21 10:02

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/10/21 21:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/10/21 21:42	1
Dibromofluoromethane (Surr)	96		80 - 120					03/10/21 21:42	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/10/21 21:42	1
Toluene-d8 (Surr)	101		80 - 120					03/10/21 21:42	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		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 13:44	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 13:44	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 13:44	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 13:44	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 13:44	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 13:44	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	74		10 - 122				03/10/21 10:30	03/11/21 13:44	1
1-Methylnaphthalene-d10 (Surr)	83		49 - 115				03/10/21 10:30	03/11/21 13:44	1
Fluoranthene-d10 (Surr)	93		65 - 129				03/10/21 10:30	03/11/21 13:44	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			03/08/21 21:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150					03/08/21 21:28	1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C12-C24</b>	<b>58</b>	<b>J**</b>	100	46	ug/L		03/10/21 17:00	03/16/21 04:35	1
C24-C40	ND		250	100	ug/L		03/10/21 17:00	03/16/21 04:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/10/21 17:00	03/16/21 04:35	1
o-terphenyl (Surr)	63		50 - 150				03/10/21 17:00	03/16/21 04:35	1

**Client Sample ID: MW-504-W-210303**

**Lab Sample ID: 410-31301-2**

Date Collected: 03/03/21 13:20

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/10/21 22:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/10/21 22:02	1
Dibromofluoromethane (Surr)	97		80 - 120					03/10/21 22:02	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/10/21 22:02	1
Toluene-d8 (Surr)	101		80 - 120					03/10/21 22:02	1

Euofins Lancaster Laboratories Env, LLC

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-504-W-210303**

**Lab Sample ID: 410-31301-2**

Date Collected: 03/03/21 13:20

Matrix: Water

Date Received: 03/05/21 11:50

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:12	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:12	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:12	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:12	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:12	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 14:12	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	33		10 - 122	03/10/21 10:30	03/11/21 14:12	1
1-Methylnaphthalene-d10 (Surr)	86		49 - 115	03/10/21 10:30	03/11/21 14:12	1
Fluoranthene-d10 (Surr)	89		65 - 129	03/10/21 10:30	03/11/21 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			03/08/21 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150		03/08/21 21:52	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	100	47	ug/L		03/17/21 17:15	03/18/21 14:56	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 14:56	1
o-terphenyl (Surr)	62		50 - 150	03/17/21 17:15	03/18/21 14:56	1

**Client Sample ID: MW-505-W-210303**

**Lab Sample ID: 410-31301-3**

Date Collected: 03/03/21 12:10

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/10/21 22:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		03/10/21 22:22	1
Dibromofluoromethane (Surr)	97		80 - 120		03/10/21 22:22	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/10/21 22:22	1
Toluene-d8 (Surr)	101		80 - 120		03/10/21 22:22	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		03/10/21 10:30	03/11/21 14:41	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:41	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:41	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:41	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 14:41	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 14:41	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 14:41	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-505-W-210303**

**Lab Sample ID: 410-31301-3**

Date Collected: 03/03/21 12:10

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	52		10 - 122	03/10/21 10:30	03/11/21 14:41	1
1-Methylnaphthalene-d10 (Surr)	83		49 - 115	03/10/21 10:30	03/11/21 14:41	1
Fluoranthene-d10 (Surr)	89		65 - 129	03/10/21 10:30	03/11/21 14:41	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			03/08/21 22:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		03/08/21 22:16	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H	100	47	ug/L		03/17/21 17:15	03/18/21 15:19	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 15:19	1
o-terphenyl (Surr)	71		50 - 150	03/17/21 17:15	03/18/21 15:19	1

**Client Sample ID: MW-506-W-210303**

**Lab Sample ID: 410-31301-4**

Date Collected: 03/03/21 11:10

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/10/21 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/10/21 22:42	1
Dibromofluoromethane (Surr)	97		80 - 120		03/10/21 22:42	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/10/21 22:42	1
Toluene-d8 (Surr)	101		80 - 120		03/10/21 22:42	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		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 15:09	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 15:09	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 15:09	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 15:09	1
Chrysene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 15:09	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 15:09	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	65		10 - 122	03/10/21 10:30	03/11/21 15:09	1
1-Methylnaphthalene-d10 (Surr)	87		49 - 115	03/10/21 10:30	03/11/21 15:09	1
Fluoranthene-d10 (Surr)	96		65 - 129	03/10/21 10:30	03/11/21 15:09	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			03/08/21 22:39	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-506-W-210303**

**Lab Sample ID: 410-31301-4**

Date Collected: 03/03/21 11:10

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene ( <i>fid</i> ) (1C)	91		50 - 150		03/08/21 22:39	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	100	47	ug/L		03/17/21 17:15	03/18/21 15:42	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid ( <i>Surr</i> )	0.3		0 - 1	03/17/21 17:15	03/18/21 15:42	1
<i>o</i> -terphenyl ( <i>Surr</i> )	74		50 - 150	03/17/21 17:15	03/18/21 15:42	1

**Client Sample ID: MW-507-W-210303**

**Lab Sample ID: 410-31301-5**

Date Collected: 03/03/21 09:20

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/10/21 23:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane- <i>d</i> 4 ( <i>Surr</i> )	102		80 - 120		03/10/21 23:02	1
Dibromofluoromethane ( <i>Surr</i> )	96		80 - 120		03/10/21 23:02	1
4-Bromofluorobenzene ( <i>Surr</i> )	95		80 - 120		03/10/21 23:02	1
Toluene- <i>d</i> 8 ( <i>Surr</i> )	101		80 - 120		03/10/21 23:02	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		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 12:18	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 12:18	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 12:18	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 12:18	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 12:18	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 12:18	1
Indeno[1,2,3- <i>cd</i> ]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene- <i>d</i> 12 ( <i>Surr</i> )	78		10 - 122	03/10/21 10:30	03/11/21 12:18	1
1-Methylnaphthalene- <i>d</i> 10 ( <i>Surr</i> )	84		49 - 115	03/10/21 10:30	03/11/21 12:18	1
Fluoranthene- <i>d</i> 10 ( <i>Surr</i> )	89		65 - 129	03/10/21 10:30	03/11/21 12:18	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			03/08/21 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene ( <i>fid</i> ) (1C)	90		50 - 150		03/08/21 23:03	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	50	ug/L		03/17/21 17:15	03/18/21 16:27	1
C24-C40	ND	H	280	110	ug/L		03/17/21 17:15	03/18/21 16:27	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Client Sample ID: MW-507-W-210303

Lab Sample ID: 410-31301-5

Date Collected: 03/03/21 09:20

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	03/17/21 17:15	03/18/21 16:27	1
<i>o-terphenyl (Surr)</i>	70		50 - 150	03/17/21 17:15	03/18/21 16:27	1

## Client Sample ID: MW-511-W-210303

Lab Sample ID: 410-31301-6

Date Collected: 03/03/21 09:24

Matrix: Water

Date Received: 03/05/21 11:50

### 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			03/11/21 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	103		80 - 120		03/11/21 00:22	1
<i>Dibromofluoromethane (Surr)</i>	97		80 - 120		03/11/21 00:22	1
<i>4-Bromofluorobenzene (Surr)</i>	96		80 - 120		03/11/21 00:22	1
<i>Toluene-d8 (Surr)</i>	102		80 - 120		03/11/21 00:22	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		0.055	0.011	ug/L		03/10/21 10:30	03/11/21 15:38	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/11/21 15:38	1
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/11/21 15:38	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/11/21 15:38	1
Chrysene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/11/21 15:38	1
Dibenz(a,h)anthracene	ND		0.055	0.022	ug/L		03/10/21 10:30	03/11/21 15:38	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.022	ug/L		03/10/21 10:30	03/11/21 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Benzo(a)pyrene-d12 (Surr)</i>	72		10 - 122	03/10/21 10:30	03/11/21 15:38	1
<i>1-Methylnaphthalene-d10 (Surr)</i>	79		49 - 115	03/10/21 10:30	03/11/21 15:38	1
<i>Fluoranthene-d10 (Surr)</i>	90		65 - 129	03/10/21 10:30	03/11/21 15:38	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			03/09/21 00:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	90		50 - 150		03/09/21 00:37	1

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H	100	47	ug/L		03/17/21 17:15	03/18/21 17:36	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	03/17/21 17:15	03/18/21 17:36	1
<i>o-terphenyl (Surr)</i>	75		50 - 150	03/17/21 17:15	03/18/21 17:36	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-512-W-210303**

**Lab Sample ID: 410-31301-7**

Date Collected: 03/03/21 10:44

Matrix: Water

Date Received: 03/05/21 11:50

### 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			03/11/21 00:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/11/21 00:43	1
Dibromofluoromethane (Surr)	96		80 - 120					03/11/21 00:43	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/11/21 00:43	1
Toluene-d8 (Surr)	101		80 - 120					03/11/21 00:43	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		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 16:06	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 16:06	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 16:06	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 16:06	1
Chrysene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 16:06	1
Dibenz(a,h)anthracene	ND		0.051	0.021	ug/L		03/10/21 10:30	03/11/21 16:06	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.021	ug/L		03/10/21 10:30	03/11/21 16:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	68		10 - 122				03/10/21 10:30	03/11/21 16:06	1
1-Methylnaphthalene-d10 (Surr)	92		49 - 115				03/10/21 10:30	03/11/21 16:06	1
Fluoranthene-d10 (Surr)	103		65 - 129				03/10/21 10:30	03/11/21 16:06	1

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	47	J	250	19	ug/L			03/09/21 01:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	89		50 - 150					03/09/21 01:01	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	100	46	ug/L		03/17/21 17:15	03/18/21 18:44	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 18:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/17/21 17:15	03/18/21 18:44	1
o-terphenyl (Surr)	85		50 - 150				03/17/21 17:15	03/18/21 18:44	1

**Client Sample ID: MW-513-W-210303**

**Lab Sample ID: 410-31301-8**

Date Collected: 03/03/21 13:24

Matrix: Water

Date Received: 03/05/21 11:50

### 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			03/11/21 01:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/11/21 01:03	1
Dibromofluoromethane (Surr)	97		80 - 120					03/11/21 01:03	1
4-Bromofluorobenzene (Surr)	95		80 - 120					03/11/21 01:03	1
Toluene-d8 (Surr)	101		80 - 120					03/11/21 01:03	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-513-W-210303**

**Lab Sample ID: 410-31301-8**

Date Collected: 03/03/21 13:24

Matrix: Water

Date Received: 03/05/21 11:50

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 16:35	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 16:35	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 16:35	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 16:35	1
Chrysene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 16:35	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 16:35	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	18		10 - 122	03/10/21 10:30	03/11/21 16:35	1
1-Methylnaphthalene-d10 (Surr)	76		49 - 115	03/10/21 10:30	03/11/21 16:35	1
Fluoranthene-d10 (Surr)	87		65 - 129	03/10/21 10:30	03/11/21 16:35	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			03/09/21 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 01:25	1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	+	110	49	ug/L		03/10/21 17:00	03/16/21 07:59	1
C24-C40	ND		270	110	ug/L		03/10/21 17:00	03/16/21 07:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/10/21 17:00	03/16/21 07:59	1
o-terphenyl (Surr)	50		50 - 150	03/10/21 17:00	03/16/21 07:59	1

**Client Sample ID: MW-514-W-210303**

**Lab Sample ID: 410-31301-9**

Date Collected: 03/03/21 12:24

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/11/21 01:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		03/11/21 01:23	1
Dibromofluoromethane (Surr)	97		80 - 120		03/11/21 01:23	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/11/21 01:23	1
Toluene-d8 (Surr)	101		80 - 120		03/11/21 01:23	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		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:04	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:04	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:04	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:04	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:04	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 17:04	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 17:04	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-514-W-210303**

**Lab Sample ID: 410-31301-9**

Date Collected: 03/03/21 12:24

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	26		10 - 122	03/10/21 10:30	03/11/21 17:04	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115	03/10/21 10:30	03/11/21 17:04	1
Fluoranthene-d10 (Surr)	91		65 - 129	03/10/21 10:30	03/11/21 17:04	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			03/09/21 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		03/09/21 01:48	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		03/10/21 17:00	03/16/21 08:22	1
C24-C40	ND		260	110	ug/L		03/10/21 17:00	03/16/21 08:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/10/21 17:00	03/16/21 08:22	1
o-terphenyl (Surr)	68		50 - 150	03/10/21 17:00	03/16/21 08:22	1

**Client Sample ID: MW-515-W-210303**

**Lab Sample ID: 410-31301-10**

Date Collected: 03/03/21 11:12

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/11/21 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/11/21 01:43	1
Dibromofluoromethane (Surr)	96		80 - 120		03/11/21 01:43	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/11/21 01:43	1
Toluene-d8 (Surr)	101		80 - 120		03/11/21 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		03/10/21 10:30	03/11/21 17:32	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:32	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:32	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:32	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 17:32	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 17:32	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	32		10 - 122	03/10/21 10:30	03/11/21 17:32	1
1-Methylnaphthalene-d10 (Surr)	83		49 - 115	03/10/21 10:30	03/11/21 17:32	1
Fluoranthene-d10 (Surr)	93		65 - 129	03/10/21 10:30	03/11/21 17:32	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			03/09/21 02:12	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-515-W-210303**

**Lab Sample ID: 410-31301-10**

Date Collected: 03/03/21 11:12

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 02:12	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	100	47	ug/L		03/17/21 17:15	03/18/21 19:06	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 19:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 19:06	1
<i>o</i> -terphenyl (Surr)	67		50 - 150	03/17/21 17:15	03/18/21 19:06	1

**Client Sample ID: MW-516-W-210303**

**Lab Sample ID: 410-31301-11**

Date Collected: 03/03/21 11:52

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/11/21 02:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/11/21 02:03	1
Dibromofluoromethane (Surr)	97		80 - 120		03/11/21 02:03	1
4-Bromofluorobenzene (Surr)	94		80 - 120		03/11/21 02:03	1
Toluene-d8 (Surr)	100		80 - 120		03/11/21 02:03	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		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 18:01	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 18:01	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 18:01	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 18:01	1
Chrysene	ND		0.051	0.010	ug/L		03/10/21 10:30	03/11/21 18:01	1
Dibenz(a,h)anthracene	ND		0.051	0.020	ug/L		03/10/21 10:30	03/11/21 18:01	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.020	ug/L		03/10/21 10:30	03/11/21 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	77		10 - 122	03/10/21 10:30	03/11/21 18:01	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115	03/10/21 10:30	03/11/21 18:01	1
Fluoranthene-d10 (Surr)	91		65 - 129	03/10/21 10:30	03/11/21 18:01	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			03/09/21 02:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 02:35	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H	100	46	ug/L		03/17/21 17:15	03/18/21 19:29	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 19:29	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Client Sample ID: MW-516-W-210303

Lab Sample ID: 410-31301-11

Date Collected: 03/03/21 11:52

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1	03/17/21 17:15	03/18/21 19:29	1
<i>o- terphenyl (Surr)</i>	62		50 - 150	03/17/21 17:15	03/18/21 19:29	1

## Client Sample ID: MW-517-W-210303

Lab Sample ID: 410-31301-12

Date Collected: 03/03/21 12:42

Matrix: Water

Date Received: 03/05/21 11:50

### 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			03/11/21 02:23	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		80 - 120		03/11/21 02:23	1			
<i>Dibromofluoromethane (Surr)</i>	97		80 - 120		03/11/21 02:23	1			
<i>4-Bromofluorobenzene (Surr)</i>	95		80 - 120		03/11/21 02:23	1			
<i>Toluene-d8 (Surr)</i>	101		80 - 120		03/11/21 02:23	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		03/10/21 10:30	03/11/21 18:29	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 18:29	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 18:29	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 18:29	1
Chrysene	ND		0.053	0.011	ug/L		03/10/21 10:30	03/11/21 18:29	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 18:29	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/10/21 10:30	03/11/21 18:29	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>Benzo(a)pyrene-d12 (Surr)</i>	71		10 - 122		03/10/21 10:30	03/11/21 18:29	1		
<i>1-Methylnaphthalene-d10 (Surr)</i>	83		49 - 115		03/10/21 10:30	03/11/21 18:29	1		
<i>Fluoranthene-d10 (Surr)</i>	95		65 - 129		03/10/21 10:30	03/11/21 18:29	1		

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C7-C12 (1C)</b>	<b>27</b>	<b>J</b>	250	19	ug/L			03/09/21 02:58	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	87		50 - 150		03/09/21 02:58	1			

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H	100	47	ug/L		03/17/21 17:15	03/18/21 19:51	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 19:51	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1		03/17/21 17:15	03/18/21 19:51	1		
<i>o- terphenyl (Surr)</i>	52		50 - 150		03/17/21 17:15	03/18/21 19:51	1		

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-520-W-210303**

**Lab Sample ID: 410-31301-13**

Date Collected: 03/03/21 13:22

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/11/21 02:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/11/21 02:44	1
Dibromofluoromethane (Surr)	96		80 - 120					03/11/21 02:44	1
4-Bromofluorobenzene (Surr)	95		80 - 120					03/11/21 02:44	1
Toluene-d8 (Surr)	102		80 - 120					03/11/21 02:44	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		03/10/21 10:30	03/11/21 18:58	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 18:58	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 18:58	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 18:58	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/11/21 18:58	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 18:58	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/11/21 18:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	77		10 - 122				03/10/21 10:30	03/11/21 18:58	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115				03/10/21 10:30	03/11/21 18:58	1
Fluoranthene-d10 (Surr)	91		65 - 129				03/10/21 10:30	03/11/21 18:58	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			03/09/21 03:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150					03/09/21 03:22	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	100	47	ug/L		03/17/21 17:15	03/18/21 20:14	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 20:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/17/21 17:15	03/18/21 20:14	1
o-terphenyl (Surr)	57		50 - 150				03/17/21 17:15	03/18/21 20:14	1

**Client Sample ID: MW-20R-W-210303**

**Lab Sample ID: 410-31301-14**

Date Collected: 03/03/21 11:36

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/11/21 03:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/11/21 03:04	1
Dibromofluoromethane (Surr)	96		80 - 120					03/11/21 03:04	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/11/21 03:04	1
Toluene-d8 (Surr)	101		80 - 120					03/11/21 03:04	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-20R-W-210303**

**Lab Sample ID: 410-31301-14**

Date Collected: 03/03/21 11:36

Matrix: Water

Date Received: 03/05/21 11:50

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.056	0.011	ug/L		03/10/21 10:30	03/12/21 14:37	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		03/10/21 10:30	03/12/21 14:37	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		03/10/21 10:30	03/12/21 14:37	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		03/10/21 10:30	03/12/21 14:37	1
Chrysene	ND		0.056	0.011	ug/L		03/10/21 10:30	03/12/21 14:37	1
Dibenz(a,h)anthracene	ND		0.056	0.022	ug/L		03/10/21 10:30	03/12/21 14:37	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.022	ug/L		03/10/21 10:30	03/12/21 14:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	27		10 - 122	03/10/21 10:30	03/12/21 14:37	1
1-Methylnaphthalene-d10 (Surr)	84		49 - 115	03/10/21 10:30	03/12/21 14:37	1
Fluoranthene-d10 (Surr)	99		65 - 129	03/10/21 10:30	03/12/21 14:37	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			03/09/21 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 03:45	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	100	47	ug/L		03/17/21 17:15	03/18/21 20:37	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 20:37	1
o-terphenyl (Surr)	86		50 - 150	03/17/21 17:15	03/18/21 20:37	1

**Client Sample ID: MW-143-W-210303**

**Lab Sample ID: 410-31301-15**

Date Collected: 03/03/21 14:02

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/11/21 03:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		03/11/21 03:24	1
Dibromofluoromethane (Surr)	97		80 - 120		03/11/21 03:24	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/11/21 03:24	1
Toluene-d8 (Surr)	101		80 - 120		03/11/21 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		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:06	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:06	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:06	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:06	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:06	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/12/21 15:06	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/12/21 15:06	1

Eurofins Lancaster Laboratories Env, LLC

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-143-W-210303**

**Lab Sample ID: 410-31301-15**

Date Collected: 03/03/21 14:02

Matrix: Water

Date Received: 03/05/21 11:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	81		10 - 122	03/10/21 10:30	03/12/21 15:06	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	03/10/21 10:30	03/12/21 15:06	1
Fluoranthene-d10 (Surr)	111		65 - 129	03/10/21 10:30	03/12/21 15:06	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			03/09/21 04:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150		03/09/21 04:09	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	100	47	ug/L		03/17/21 17:15	03/18/21 20:59	1
C24-C40	ND	H	260	100	ug/L		03/17/21 17:15	03/18/21 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 20:59	1
o-terphenyl (Surr)	69		50 - 150	03/17/21 17:15	03/18/21 20:59	1

**Client Sample ID: QA-T-210303**

**Lab Sample ID: 410-31301-16**

Date Collected: 03/03/21 00:00

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/10/21 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		03/10/21 21:22	1
Dibromofluoromethane (Surr)	96		80 - 120		03/10/21 21:22	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/10/21 21:22	1
Toluene-d8 (Surr)	101		80 - 120		03/10/21 21:22	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			03/08/21 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/08/21 21:05	1

**Client Sample ID: MW-8R-W-210303**

**Lab Sample ID: 410-31301-17**

Date Collected: 03/03/21 13:36

Matrix: Water

Date Received: 03/05/21 11:50

**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			03/11/21 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		03/11/21 03:44	1
Dibromofluoromethane (Surr)	97		80 - 120		03/11/21 03:44	1
4-Bromofluorobenzene (Surr)	95		80 - 120		03/11/21 03:44	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-8R-W-210303**

**Lab Sample ID: 410-31301-17**

Date Collected: 03/03/21 13:36

Matrix: Water

Date Received: 03/05/21 11:50

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		03/11/21 03:44	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		03/10/21 10:30	03/12/21 15:34	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:34	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:34	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:34	1
Chrysene	ND		0.052	0.010	ug/L		03/10/21 10:30	03/12/21 15:34	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/12/21 15:34	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L		03/10/21 10:30	03/12/21 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	68		10 - 122	03/10/21 10:30	03/12/21 15:34	1
1-Methylnaphthalene-d10 (Surr)	81		49 - 115	03/10/21 10:30	03/12/21 15:34	1
Fluoranthene-d10 (Surr)	87		65 - 129	03/10/21 10:30	03/12/21 15:34	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			03/09/21 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 04:32	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		03/17/21 17:15	03/18/21 21:22	1
C24-C40	ND	H	260	110	ug/L		03/17/21 17:15	03/18/21 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 21:22	1
o-terphenyl (Surr)	63		50 - 150	03/17/21 17:15	03/18/21 21:22	1

**Client Sample ID: MW-522-W-210303**

**Lab Sample ID: 410-31301-18**

Date Collected: 03/03/21 12:36

Matrix: Water

Date Received: 03/05/21 11:50

## 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			03/11/21 04:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/11/21 04:04	1
Dibromofluoromethane (Surr)	97		80 - 120		03/11/21 04:04	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/11/21 04:04	1
Toluene-d8 (Surr)	101		80 - 120		03/11/21 04:04	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		0.055	0.011	ug/L		03/10/21 10:30	03/12/21 16:03	1
Benzo[a]pyrene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/12/21 16:03	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-522-W-210303**

**Lab Sample ID: 410-31301-18**

Date Collected: 03/03/21 12:36

Matrix: Water

Date Received: 03/05/21 11:50

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/12/21 16:03	1
Benzo[k]fluoranthene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/12/21 16:03	1
Chrysene	ND		0.055	0.011	ug/L		03/10/21 10:30	03/12/21 16:03	1
Dibenz(a,h)anthracene	ND		0.055	0.022	ug/L		03/10/21 10:30	03/12/21 16:03	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.022	ug/L		03/10/21 10:30	03/12/21 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	66		10 - 122	03/10/21 10:30	03/12/21 16:03	1
1-Methylnaphthalene-d10 (Surr)	77		49 - 115	03/10/21 10:30	03/12/21 16:03	1
Fluoranthene-d10 (Surr)	94		65 - 129	03/10/21 10:30	03/12/21 16:03	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			03/09/21 04:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		03/09/21 04:55	1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	H	110	47	ug/L		03/17/21 17:15	03/18/21 21:44	1
C24-C40	ND	H	260	110	ug/L		03/17/21 17:15	03/18/21 21:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 21:44	1
o-terphenyl (Surr)	63		50 - 150	03/17/21 17:15	03/18/21 21:44	1



# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## 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)
410-31301-1	MW-139R-W-210303	102	96	96	101
410-31301-2	MW-504-W-210303	103	97	96	101
410-31301-3	MW-505-W-210303	101	97	96	101
410-31301-4	MW-506-W-210303	103	97	95	101
410-31301-5	MW-507-W-210303	102	96	95	101
410-31301-5 MS	MW-507-W-210303	100	97	96	102
410-31301-5 MSD	MW-507-W-210303	100	97	96	101
410-31301-6	MW-511-W-210303	103	97	96	102
410-31301-7	MW-512-W-210303	103	96	96	101
410-31301-8	MW-513-W-210303	102	97	95	101
410-31301-9	MW-514-W-210303	104	97	96	101
410-31301-10	MW-515-W-210303	103	96	95	101
410-31301-11	MW-516-W-210303	103	97	94	100
410-31301-12	MW-517-W-210303	102	97	95	101
410-31301-13	MW-520-W-210303	103	96	95	102
410-31301-14	MW-20R-W-210303	103	96	96	101
410-31301-15	MW-143-W-210303	103	97	96	101
410-31301-16	QA-T-210303	104	96	95	101
410-31301-17	MW-8R-W-210303	104	97	95	101
410-31301-18	MW-522-W-210303	102	97	96	101
LCS 410-101825/4	Lab Control Sample	99	96	96	102
MB 410-101825/6	Method Blank	101	97	95	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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BAPd12 (10-122)	MNPd10 (49-115)	FLN10 (65-129)
410-31301-1	MW-139R-W-210303	74	83	93
410-31301-2	MW-504-W-210303	33	86	89
410-31301-3	MW-505-W-210303	52	83	89
410-31301-4	MW-506-W-210303	65	87	96
410-31301-5	MW-507-W-210303	78	84	89
410-31301-5 MS	MW-507-W-210303	87	83	93
410-31301-5 MSD	MW-507-W-210303	85	80	90
410-31301-6	MW-511-W-210303	72	79	90
410-31301-7	MW-512-W-210303	68	92	103
410-31301-8	MW-513-W-210303	18	76	87
410-31301-9	MW-514-W-210303	26	82	91
410-31301-10	MW-515-W-210303	32	83	93
410-31301-11	MW-516-W-210303	77	82	91
410-31301-12	MW-517-W-210303	71	83	95
410-31301-13	MW-520-W-210303	77	82	91



# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## 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)
410-31301-14	MW-20R-W-210303	27	84	99
410-31301-15	MW-143-W-210303	81	85	111
410-31301-17	MW-8R-W-210303	68	81	87
410-31301-18	MW-522-W-210303	66	77	94
LCS 410-101515/2-A	Lab Control Sample	98	79	96
MB 410-101515/1-A	Method Blank	80	76	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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-150)
410-31301-1	MW-139R-W-210303	91
410-31301-2	MW-504-W-210303	90
410-31301-3	MW-505-W-210303	92
410-31301-4	MW-506-W-210303	91
410-31301-5	MW-507-W-210303	90
410-31301-5 MS	MW-507-W-210303	92
410-31301-5 MSD	MW-507-W-210303	92
410-31301-6	MW-511-W-210303	90
410-31301-7	MW-512-W-210303	89
410-31301-8	MW-513-W-210303	91
410-31301-9	MW-514-W-210303	92
410-31301-10	MW-515-W-210303	91
410-31301-11	MW-516-W-210303	91
410-31301-12	MW-517-W-210303	87
410-31301-13	MW-520-W-210303	91
410-31301-14	MW-20R-W-210303	91
410-31301-15	MW-143-W-210303	90
410-31301-16	QA-T-210303	91
410-31301-17	MW-8R-W-210303	91
410-31301-18	MW-522-W-210303	92
LCS 410-100790/6	Lab Control Sample	93
LCSD 410-100790/7	Lab Control Sample Dup	85
MB 410-100790/5	Method Blank	92

### Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		NDA (0-1)	OTP (50-150)
410-31301-1	MW-139R-W-210303	0.3	63

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# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## 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)
410-31301-2	MW-504-W-210303	0.3	62
410-31301-3	MW-505-W-210303	0.3	71
410-31301-4	MW-506-W-210303	0.3	74
410-31301-4 DU	MW-506-W-210303	0.3	67
410-31301-5	MW-507-W-210303	0.3	70
410-31301-5 MS	MW-507-W-210303	0.4	75
410-31301-5 MSD	MW-507-W-210303	0.4	75
410-31301-6	MW-511-W-210303	0.3	75
410-31301-6 DU	MW-511-W-210303	0.3	63
410-31301-7	MW-512-W-210303	0.3	85
410-31301-8	MW-513-W-210303	0.3	50
410-31301-9	MW-514-W-210303	0.3	68
410-31301-10	MW-515-W-210303	0.3	67
410-31301-11	MW-516-W-210303	0.3	62
410-31301-12	MW-517-W-210303	0.3	52
410-31301-13	MW-520-W-210303	0.3	57
410-31301-14	MW-20R-W-210303	0.3	86
410-31301-15	MW-143-W-210303	0.3	69
410-31301-17	MW-8R-W-210303	0.3	63
410-31301-18	MW-522-W-210303	0.3	63
410-31301-D-2-C DU	410-31301-D-2-C DU	0.3	79
LCS 410-101756/2-B	Lab Control Sample	1	84
LCS 410-104290/2-B	Lab Control Sample	0.4	73
MB 410-101756/1-B	Method Blank	0.3	71
MB 410-104290/1-B	Method Blank	0.3	55

#### 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: 410-31301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 410-101825/6**  
**Matrix: Water**  
**Analysis Batch: 101825**

**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			03/10/21 21:01	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					03/10/21 21:01	1
Dibromofluoromethane (Surr)	97		80 - 120					03/10/21 21:01	1
4-Bromofluorobenzene (Surr)	95		80 - 120					03/10/21 21:01	1
Toluene-d8 (Surr)	101		80 - 120					03/10/21 21:01	1

**Lab Sample ID: LCS 410-101825/4**  
**Matrix: Water**  
**Analysis Batch: 101825**

**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	17.1		ug/L		85	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	96		80 - 120				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Toluene-d8 (Surr)	102		80 - 120				

**Lab Sample ID: 410-31301-5 MS**  
**Matrix: Water**  
**Analysis Batch: 101825**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	19.8		ug/L		99	80 - 120
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	100		80 - 120						
Dibromofluoromethane (Surr)	97		80 - 120						
4-Bromofluorobenzene (Surr)	96		80 - 120						
Toluene-d8 (Surr)	102		80 - 120						

**Lab Sample ID: 410-31301-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 101825**

**Client Sample ID: MW-507-W-210303**  
**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	20.0		ug/L		100	80 - 120	1	30
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		80 - 120								
Dibromofluoromethane (Surr)	97		80 - 120								
4-Bromofluorobenzene (Surr)	96		80 - 120								
Toluene-d8 (Surr)	101		80 - 120								

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 410-101515/1-A**  
**Matrix: Water**  
**Analysis Batch: 101955**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 101515**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		03/10/21 10:30	03/11/21 08:01	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		03/10/21 10:30	03/11/21 08:01	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		03/10/21 10:30	03/11/21 08:01	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		03/10/21 10:30	03/11/21 08:01	1
Chrysene	ND		0.050	0.010	ug/L		03/10/21 10:30	03/11/21 08:01	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		03/10/21 10:30	03/11/21 08:01	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		03/10/21 10:30	03/11/21 08:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	80		10 - 122	03/10/21 10:30	03/11/21 08:01	1
1-Methylnaphthalene-d10 (Surr)	76		49 - 115	03/10/21 10:30	03/11/21 08:01	1
Fluoranthene-d10 (Surr)	89		65 - 129	03/10/21 10:30	03/11/21 08:01	1

**Lab Sample ID: LCS 410-101515/2-A**  
**Matrix: Water**  
**Analysis Batch: 101955**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 101515**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzo[a]anthracene	1.00	0.919		ug/L		92	69 - 119
Benzo[a]pyrene	1.00	1.05		ug/L		105	73 - 117
Benzo[b]fluoranthene	1.00	0.988		ug/L		99	72 - 123
Benzo[k]fluoranthene	1.00	1.06		ug/L		106	66 - 124
Chrysene	1.00	0.985		ug/L		98	61 - 117
Dibenz(a,h)anthracene	1.00	0.960		ug/L		96	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	1.03		ug/L		103	57 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	98		10 - 122
1-Methylnaphthalene-d10 (Surr)	79		49 - 115
Fluoranthene-d10 (Surr)	96		65 - 129

**Lab Sample ID: 410-31301-5 MS**  
**Matrix: Water**  
**Analysis Batch: 101955**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 101515**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Benzo[a]anthracene	ND		1.02	0.917		ug/L		89	69 - 119
Benzo[a]pyrene	ND		1.02	0.982		ug/L		96	73 - 117
Benzo[b]fluoranthene	ND		1.02	0.930		ug/L		91	72 - 123
Benzo[k]fluoranthene	ND		1.02	0.939		ug/L		92	66 - 124
Chrysene	ND		1.02	1.01		ug/L		99	61 - 117
Dibenz(a,h)anthracene	ND		1.02	0.923		ug/L		90	60 - 118
Indeno[1,2,3-cd]pyrene	ND		1.02	0.998		ug/L		97	57 - 134

Surrogate	MS %Recovery	MS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	87		10 - 122
1-Methylnaphthalene-d10 (Surr)	83		49 - 115

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 410-31301-5 MS**  
**Matrix: Water**  
**Analysis Batch: 101955**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 101515**

Surrogate	%Recovery	MS MS Qualifier	Limits
Fluoranthene-d10 (Surr)	93		65 - 129

**Lab Sample ID: 410-31301-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 101955**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 101515**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	ND		1.09	0.987		ug/L		91	69 - 119	7	30
Benzo[a]pyrene	ND		1.09	1.00		ug/L		92	73 - 117	2	30
Benzo[b]fluoranthene	ND		1.09	0.936		ug/L		86	72 - 123	1	30
Benzo[k]fluoranthene	ND		1.09	0.981		ug/L		90	66 - 124	4	30
Chrysene	ND		1.09	1.03		ug/L		94	61 - 117	2	30
Dibenz(a,h)anthracene	ND		1.09	0.911		ug/L		84	60 - 118	1	30
Indeno[1,2,3-cd]pyrene	ND		1.09	0.941		ug/L		86	57 - 134	6	30

Surrogate	%Recovery	MSD MSD Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	85		10 - 122
1-Methylnaphthalene-d10 (Surr)	80		49 - 115
Fluoranthene-d10 (Surr)	90		65 - 129

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

**Lab Sample ID: MB 410-100790/5**  
**Matrix: Water**  
**Analysis Batch: 100790**

**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			03/08/21 19:54	1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		03/08/21 19:54	1

**Lab Sample ID: LCS 410-100790/6**  
**Matrix: Water**  
**Analysis Batch: 100790**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C7-C12 (1C)	1100		ug/L		99	64 - 131

Surrogate	%Recovery	LCS LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	93		50 - 150

**Lab Sample ID: LCSD 410-100790/7**  
**Matrix: Water**  
**Analysis Batch: 100790**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C7-C12 (1C)	1100		ug/L		98	64 - 131	1	30

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150

Lab Sample ID: 410-31301-5 MS  
Matrix: Water  
Analysis Batch: 100790

Client Sample ID: MW-507-W-210303  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
C7-C12 (1C)	ND		1120	1250		ug/L		112	80 - 120

Surrogate	MS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

Lab Sample ID: 410-31301-5 MSD  
Matrix: Water  
Analysis Batch: 100790

Client Sample ID: MW-507-W-210303  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
				Result	Qualifier						
C7-C12 (1C)	ND		1120	1170		ug/L		105	80 - 120	6	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-101756/1-B  
Matrix: Water  
Analysis Batch: 103262

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 101756

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		03/10/21 17:00	03/16/21 02:42	1
C24-C40	ND		250	100	ug/L		03/10/21 17:00	03/16/21 02:42	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
n-Decanoic Acid (Surr)	0.3		0 - 1	03/10/21 17:00	03/16/21 02:42	1
o-terphenyl (Surr)	71		50 - 150	03/10/21 17:00	03/16/21 02:42	1

Lab Sample ID: LCS 410-101756/2-B  
Matrix: Water  
Analysis Batch: 103262

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 101756

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	602	859	*+	ug/L		143	10 - 115

Surrogate	LCS		Limits
	%Recovery	Qualifier	
n-Decanoic Acid (Surr)	1		0 - 1
o-terphenyl (Surr)	84		50 - 150

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

**Lab Sample ID: 410-31301-D-2-C DU**  
**Matrix: Water**  
**Analysis Batch: 103262**

**Client Sample ID: 410-31301-D-2-C DU**  
**Prep Type: Total/NA**  
**Prep Batch: 101756**

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
C12-C24	100	*+	362	F3 *+	ug/L		113	20
C24-C40	160	J	234	J F5	ug/L		35	20
<b>DU DU</b>								
Surrogate	%Recovery	Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1					
<i>o-terphenyl (Surr)</i>	79		50 - 150					

**Lab Sample ID: MB 410-104290/1-B**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		03/17/21 17:15	03/18/21 14:11	1
C24-C40	ND		250	100	ug/L		03/17/21 17:15	03/18/21 14:11	1
<b>MB MB</b>									
Surrogate	%Recovery	Qualifier	Limits		Prepared		Analyzed		Dil Fac
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1		03/17/21 17:15		03/18/21 14:11		1
<i>o-terphenyl (Surr)</i>	55		50 - 150		03/17/21 17:15		03/18/21 14:11		1

**Lab Sample ID: LCS 410-104290/2-B**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limits	
C12-C24	602	205		ug/L		34	10 - 115	
<b>LCS LCS</b>								
Surrogate	%Recovery	Qualifier	Limits					
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1					
<i>o-terphenyl (Surr)</i>	73		50 - 150					

**Lab Sample ID: 410-31301-5 MS**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	Sample	Sample	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
C12-C24	ND	H	637	265	H	ug/L		42	30 - 115
<b>MS MS</b>									
Surrogate	%Recovery	Qualifier	Limits						
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1						
<i>o-terphenyl (Surr)</i>	75		50 - 150						

**Lab Sample ID: 410-31301-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	Sample	Sample	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
C12-C24	ND	H	634	265	H	ug/L		42	30 - 115	0	20

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

**Lab Sample ID: 410-31301-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: MW-507-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	75		50 - 150

**Lab Sample ID: 410-31301-4 DU**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: MW-506-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>DU</i> <i>Result</i>	<i>DU</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>Limit</i>
C12-C24	ND	H	ND		ug/L		NC	20
C24-C40	ND	H	ND		ug/L		NC	20

<i>Surrogate</i>	<i>DU</i> <i>%Recovery</i>	<i>DU</i> <i>Qualifier</i>	<i>Limits</i>
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	67		50 - 150

**Lab Sample ID: 410-31301-6 DU**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: MW-511-W-210303**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>DU</i> <i>Result</i>	<i>DU</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>Limit</i>
C12-C24	ND	H	ND		ug/L		NC	20
C24-C40	ND	H	ND		ug/L		NC	20

<i>Surrogate</i>	<i>DU</i> <i>%Recovery</i>	<i>DU</i> <i>Qualifier</i>	<i>Limits</i>
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<i>o-terphenyl (Surr)</i>	63		50 - 150



# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## GC/MS VOA

### Analysis Batch: 101825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	8260D	
410-31301-2	MW-504-W-210303	Total/NA	Water	8260D	
410-31301-3	MW-505-W-210303	Total/NA	Water	8260D	
410-31301-4	MW-506-W-210303	Total/NA	Water	8260D	
410-31301-5	MW-507-W-210303	Total/NA	Water	8260D	
410-31301-6	MW-511-W-210303	Total/NA	Water	8260D	
410-31301-7	MW-512-W-210303	Total/NA	Water	8260D	
410-31301-8	MW-513-W-210303	Total/NA	Water	8260D	
410-31301-9	MW-514-W-210303	Total/NA	Water	8260D	
410-31301-10	MW-515-W-210303	Total/NA	Water	8260D	
410-31301-11	MW-516-W-210303	Total/NA	Water	8260D	
410-31301-12	MW-517-W-210303	Total/NA	Water	8260D	
410-31301-13	MW-520-W-210303	Total/NA	Water	8260D	
410-31301-14	MW-20R-W-210303	Total/NA	Water	8260D	
410-31301-15	MW-143-W-210303	Total/NA	Water	8260D	
410-31301-16	QA-T-210303	Total/NA	Water	8260D	
410-31301-17	MW-8R-W-210303	Total/NA	Water	8260D	
410-31301-18	MW-522-W-210303	Total/NA	Water	8260D	
MB 410-101825/6	Method Blank	Total/NA	Water	8260D	
LCS 410-101825/4	Lab Control Sample	Total/NA	Water	8260D	
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	8260D	
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 101515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	3510C	
410-31301-2	MW-504-W-210303	Total/NA	Water	3510C	
410-31301-3	MW-505-W-210303	Total/NA	Water	3510C	
410-31301-4	MW-506-W-210303	Total/NA	Water	3510C	
410-31301-5	MW-507-W-210303	Total/NA	Water	3510C	
410-31301-6	MW-511-W-210303	Total/NA	Water	3510C	
410-31301-7	MW-512-W-210303	Total/NA	Water	3510C	
410-31301-8	MW-513-W-210303	Total/NA	Water	3510C	
410-31301-9	MW-514-W-210303	Total/NA	Water	3510C	
410-31301-10	MW-515-W-210303	Total/NA	Water	3510C	
410-31301-11	MW-516-W-210303	Total/NA	Water	3510C	
410-31301-12	MW-517-W-210303	Total/NA	Water	3510C	
410-31301-13	MW-520-W-210303	Total/NA	Water	3510C	
410-31301-14	MW-20R-W-210303	Total/NA	Water	3510C	
410-31301-15	MW-143-W-210303	Total/NA	Water	3510C	
410-31301-17	MW-8R-W-210303	Total/NA	Water	3510C	
410-31301-18	MW-522-W-210303	Total/NA	Water	3510C	
MB 410-101515/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-101515/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	3510C	
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	3510C	

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## GC/MS Semi VOA

### Analysis Batch: 101955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-2	MW-504-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-3	MW-505-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-4	MW-506-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-5	MW-507-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-6	MW-511-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-7	MW-512-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-8	MW-513-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-9	MW-514-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-10	MW-515-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-11	MW-516-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-12	MW-517-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-13	MW-520-W-210303	Total/NA	Water	8270D SIM	101515
MB 410-101515/1-A	Method Blank	Total/NA	Water	8270D SIM	101515
LCS 410-101515/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	101515
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	8270D SIM	101515

### Analysis Batch: 102457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-14	MW-20R-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-15	MW-143-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-17	MW-8R-W-210303	Total/NA	Water	8270D SIM	101515
410-31301-18	MW-522-W-210303	Total/NA	Water	8270D SIM	101515

## GC VOA

### Analysis Batch: 100790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-2	MW-504-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-3	MW-505-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-4	MW-506-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-5	MW-507-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-6	MW-511-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-7	MW-512-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-8	MW-513-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-9	MW-514-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-10	MW-515-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-11	MW-516-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-12	MW-517-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-13	MW-520-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-14	MW-20R-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-15	MW-143-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-16	QA-T-210303	Total/NA	Water	NWTPH-Gx	
410-31301-17	MW-8R-W-210303	Total/NA	Water	NWTPH-Gx	
410-31301-18	MW-522-W-210303	Total/NA	Water	NWTPH-Gx	
MB 410-100790/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-100790/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-100790/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	NWTPH-Gx	

Euofins Lancaster Laboratories Env, LLC

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## GC VOA (Continued)

### Analysis Batch: 100790 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	NWTPH-Gx	

## GC Semi VOA

### Prep Batch: 101756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	3510C	
410-31301-8	MW-513-W-210303	Total/NA	Water	3510C	
410-31301-9	MW-514-W-210303	Total/NA	Water	3510C	
MB 410-101756/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-31301-D-2-C DU	410-31301-D-2-C DU	Total/NA	Water	3510C	

### Cleanup Batch: 103039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	3630C	101756
410-31301-8	MW-513-W-210303	Total/NA	Water	3630C	101756
410-31301-9	MW-514-W-210303	Total/NA	Water	3630C	101756
MB 410-101756/1-B	Method Blank	Total/NA	Water	3630C	101756
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	3630C	101756
410-31301-D-2-C DU	410-31301-D-2-C DU	Total/NA	Water	3630C	101756

### Analysis Batch: 103262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-1	MW-139R-W-210303	Total/NA	Water	NWTPH-Dx	103039
410-31301-8	MW-513-W-210303	Total/NA	Water	NWTPH-Dx	103039
410-31301-9	MW-514-W-210303	Total/NA	Water	NWTPH-Dx	103039
MB 410-101756/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	103039
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	103039
410-31301-D-2-C DU	410-31301-D-2-C DU	Total/NA	Water	NWTPH-Dx	103039

### Prep Batch: 104290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-2	MW-504-W-210303	Total/NA	Water	3510C	
410-31301-3	MW-505-W-210303	Total/NA	Water	3510C	
410-31301-4	MW-506-W-210303	Total/NA	Water	3510C	
410-31301-5	MW-507-W-210303	Total/NA	Water	3510C	
410-31301-6	MW-511-W-210303	Total/NA	Water	3510C	
410-31301-7	MW-512-W-210303	Total/NA	Water	3510C	
410-31301-10	MW-515-W-210303	Total/NA	Water	3510C	
410-31301-11	MW-516-W-210303	Total/NA	Water	3510C	
410-31301-12	MW-517-W-210303	Total/NA	Water	3510C	
410-31301-13	MW-520-W-210303	Total/NA	Water	3510C	
410-31301-14	MW-20R-W-210303	Total/NA	Water	3510C	
410-31301-15	MW-143-W-210303	Total/NA	Water	3510C	
410-31301-17	MW-8R-W-210303	Total/NA	Water	3510C	
410-31301-18	MW-522-W-210303	Total/NA	Water	3510C	
MB 410-104290/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	3510C	
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	3510C	

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

## GC Semi VOA (Continued)

### Prep Batch: 104290 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-4 DU	MW-506-W-210303	Total/NA	Water	3510C	
410-31301-6 DU	MW-511-W-210303	Total/NA	Water	3510C	

### Cleanup Batch: 104424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-2	MW-504-W-210303	Total/NA	Water	3630C	104290
410-31301-3	MW-505-W-210303	Total/NA	Water	3630C	104290
410-31301-4	MW-506-W-210303	Total/NA	Water	3630C	104290
410-31301-5	MW-507-W-210303	Total/NA	Water	3630C	104290
410-31301-6	MW-511-W-210303	Total/NA	Water	3630C	104290
410-31301-7	MW-512-W-210303	Total/NA	Water	3630C	104290
410-31301-10	MW-515-W-210303	Total/NA	Water	3630C	104290
410-31301-11	MW-516-W-210303	Total/NA	Water	3630C	104290
410-31301-12	MW-517-W-210303	Total/NA	Water	3630C	104290
410-31301-13	MW-520-W-210303	Total/NA	Water	3630C	104290
410-31301-14	MW-20R-W-210303	Total/NA	Water	3630C	104290
410-31301-15	MW-143-W-210303	Total/NA	Water	3630C	104290
410-31301-17	MW-8R-W-210303	Total/NA	Water	3630C	104290
410-31301-18	MW-522-W-210303	Total/NA	Water	3630C	104290
MB 410-104290/1-B	Method Blank	Total/NA	Water	3630C	104290
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	3630C	104290
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	3630C	104290
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	3630C	104290
410-31301-4 DU	MW-506-W-210303	Total/NA	Water	3630C	104290
410-31301-6 DU	MW-511-W-210303	Total/NA	Water	3630C	104290

### Analysis Batch: 104420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31301-2	MW-504-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-3	MW-505-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-4	MW-506-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-5	MW-507-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-6	MW-511-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-7	MW-512-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-10	MW-515-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-11	MW-516-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-12	MW-517-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-13	MW-520-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-14	MW-20R-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-15	MW-143-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-17	MW-8R-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-18	MW-522-W-210303	Total/NA	Water	NWTPH-Dx	104424
MB 410-104290/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	104424
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	104424
410-31301-5 MS	MW-507-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-5 MSD	MW-507-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-4 DU	MW-506-W-210303	Total/NA	Water	NWTPH-Dx	104424
410-31301-6 DU	MW-511-W-210303	Total/NA	Water	NWTPH-Dx	104424

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-139R-W-210303**

**Lab Sample ID: 410-31301-1**

Date Collected: 03/03/21 10:02

Matrix: Water

Date Received: 03/05/21 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 21:42	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 13:44	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 21:28	JJT8	ELLE
Total/NA	Prep	3510C			101756	03/10/21 17:00	DFX4	ELLE
Total/NA	Cleanup	3630C			103039	03/15/21 01:39	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	103262	03/16/21 04:35	KP5X	ELLE

**Client Sample ID: MW-504-W-210303**

**Lab Sample ID: 410-31301-2**

Date Collected: 03/03/21 13:20

Matrix: Water

Date Received: 03/05/21 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 22:02	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 14:12	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 21:52	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 14:56	IUSB	ELLE

**Client Sample ID: MW-505-W-210303**

**Lab Sample ID: 410-31301-3**

Date Collected: 03/03/21 12:10

Matrix: Water

Date Received: 03/05/21 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 22:22	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 14:41	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 22:16	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 15:19	IUSB	ELLE

**Client Sample ID: MW-506-W-210303**

**Lab Sample ID: 410-31301-4**

Date Collected: 03/03/21 11:10

Matrix: Water

Date Received: 03/05/21 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 22:42	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 15:09	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 22:39	JJT8	ELLE

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-506-W-210303**  
**Date Collected: 03/03/21 11:10**  
**Date Received: 03/05/21 11:50**

**Lab Sample ID: 410-31301-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 15:42	IUSB	ELLE

**Client Sample ID: MW-507-W-210303**  
**Date Collected: 03/03/21 09:20**  
**Date Received: 03/05/21 11:50**

**Lab Sample ID: 410-31301-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 23:02	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 12:18	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 23:03	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 16:27	IUSB	ELLE

**Client Sample ID: MW-511-W-210303**  
**Date Collected: 03/03/21 09:24**  
**Date Received: 03/05/21 11:50**

**Lab Sample ID: 410-31301-6**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 00:22	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 15:38	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 00:37	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 17:36	IUSB	ELLE

**Client Sample ID: MW-512-W-210303**  
**Date Collected: 03/03/21 10:44**  
**Date Received: 03/05/21 11:50**

**Lab Sample ID: 410-31301-7**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 00:43	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 16:06	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 01:01	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 18:44	IUSB	ELLE



# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-513-W-210303**

**Lab Sample ID: 410-31301-8**

**Date Collected: 03/03/21 13:24**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 01:03	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 16:35	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 01:25	JJT8	ELLE
Total/NA	Prep	3510C			101756	03/10/21 17:00	DFX4	ELLE
Total/NA	Cleanup	3630C			103039	03/15/21 01:39	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	103262	03/16/21 07:59	KP5X	ELLE

**Client Sample ID: MW-514-W-210303**

**Lab Sample ID: 410-31301-9**

**Date Collected: 03/03/21 12:24**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 01:23	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 17:04	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 01:48	JJT8	ELLE
Total/NA	Prep	3510C			101756	03/10/21 17:00	DFX4	ELLE
Total/NA	Cleanup	3630C			103039	03/15/21 01:39	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	103262	03/16/21 08:22	KP5X	ELLE

**Client Sample ID: MW-515-W-210303**

**Lab Sample ID: 410-31301-10**

**Date Collected: 03/03/21 11:12**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 01:43	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 17:32	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 02:12	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 19:06	IUSB	ELLE

**Client Sample ID: MW-516-W-210303**

**Lab Sample ID: 410-31301-11**

**Date Collected: 03/03/21 11:52**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 02:03	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 18:01	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 02:35	JJT8	ELLE

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-516-W-210303**

**Lab Sample ID: 410-31301-11**

**Date Collected: 03/03/21 11:52**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 19:29	IUSB	ELLE

**Client Sample ID: MW-517-W-210303**

**Lab Sample ID: 410-31301-12**

**Date Collected: 03/03/21 12:42**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 02:23	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 18:29	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 02:58	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 19:51	IUSB	ELLE

**Client Sample ID: MW-520-W-210303**

**Lab Sample ID: 410-31301-13**

**Date Collected: 03/03/21 13:22**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 02:44	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	101955	03/11/21 18:58	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 03:22	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 20:14	IUSB	ELLE

**Client Sample ID: MW-20R-W-210303**

**Lab Sample ID: 410-31301-14**

**Date Collected: 03/03/21 11:36**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 03:04	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	102457	03/12/21 14:37	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 03:45	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 20:37	IUSB	ELLE



# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31301-1

**Client Sample ID: MW-143-W-210303**

**Lab Sample ID: 410-31301-15**

**Date Collected: 03/03/21 14:02**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 03:24	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	102457	03/12/21 15:06	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 04:09	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 20:59	IUSB	ELLE

**Client Sample ID: QA-T-210303**

**Lab Sample ID: 410-31301-16**

**Date Collected: 03/03/21 00:00**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/10/21 21:22	TQ4J	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/08/21 21:05	JJT8	ELLE

**Client Sample ID: MW-8R-W-210303**

**Lab Sample ID: 410-31301-17**

**Date Collected: 03/03/21 13:36**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 03:44	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	102457	03/12/21 15:34	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 04:32	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 21:22	IUSB	ELLE

**Client Sample ID: MW-522-W-210303**

**Lab Sample ID: 410-31301-18**

**Date Collected: 03/03/21 12:36**

**Matrix: Water**

**Date Received: 03/05/21 11:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101825	03/11/21 04:04	TQ4J	ELLE
Total/NA	Prep	3510C			101515	03/10/21 10:30	I5BW	ELLE
Total/NA	Analysis	8270D SIM		1	102457	03/12/21 16:03	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	100790	03/09/21 04:55	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 21:44	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: 410-31301-1

## 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: 410-31301-1

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	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

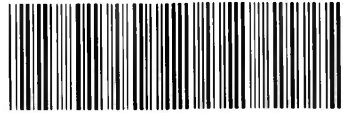
Job ID: 410-31301-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-31301-1	MW-139R-W-210303	Water	03/03/21 10:02	03/05/21 11:50	
410-31301-2	MW-504-W-210303	Water	03/03/21 13:20	03/05/21 11:50	
410-31301-3	MW-505-W-210303	Water	03/03/21 12:10	03/05/21 11:50	
410-31301-4	MW-506-W-210303	Water	03/03/21 11:10	03/05/21 11:50	
410-31301-5	MW-507-W-210303	Water	03/03/21 09:20	03/05/21 11:50	
410-31301-6	MW-511-W-210303	Water	03/03/21 09:24	03/05/21 11:50	
410-31301-7	MW-512-W-210303	Water	03/03/21 10:44	03/05/21 11:50	
410-31301-8	MW-513-W-210303	Water	03/03/21 13:24	03/05/21 11:50	
410-31301-9	MW-514-W-210303	Water	03/03/21 12:24	03/05/21 11:50	
410-31301-10	MW-515-W-210303	Water	03/03/21 11:12	03/05/21 11:50	
410-31301-11	MW-516-W-210303	Water	03/03/21 11:52	03/05/21 11:50	
410-31301-12	MW-517-W-210303	Water	03/03/21 12:42	03/05/21 11:50	
410-31301-13	MW-520-W-210303	Water	03/03/21 13:22	03/05/21 11:50	
410-31301-14	MW-20R-W-210303	Water	03/03/21 11:36	03/05/21 11:50	
410-31301-15	MW-143-W-210303	Water	03/03/21 14:02	03/05/21 11:50	
410-31301-16	QA-T-210303	Water	03/03/21 00:00	03/05/21 11:50	
410-31301-17	MW-8R-W-210303	Water	03/03/21 13:36	03/05/21 11:50	
410-31301-18	MW-522-W-210303	Water	03/03/21 12:36	03/05/21 11:50	



Lancaster Laboratories

Acct. # 410-31301 Chain of Custody



Laboratories use only  
Sample #  
Sample # with circled numbers.

1 Client Information			4 Matrix			5 Analyses Requested										6 Remarks	
Facility # <u>WBS</u> Site Address <u>Edmonds Terminal</u> <u>11720 Unoco Rd, Edmonds, WA</u> <u>Argadis</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant Consultant/Office <u>Arcadis, 1100 Olive Way, Ste 800, Seattle, WA 98101</u> Consultant Project Mgr. <u>Sam Miles</u> 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"/> 8021 <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> Benzene <input type="checkbox"/> 8260 full scan Oxygenates NWTPH GX <input checked="" type="checkbox"/> Silica Gel Cleanup Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method WAWPH <input type="checkbox"/> WAEPH <u>CPAHs, 8270 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	
2 Sample Identification Collected Date Time MW-139R 3/3/21 1002 MW-504 1320 MW-505 1210 MW-506 1110 MW-507 0920 MW-507 MS 0923 MW-507 MS12 0927 MW-511 0924 MW-512 1044 MW-513 1324 MW-514 1724 MW-515 1112 MW-516 1152			3 Grab Composite <input checked="" type="checkbox"/> Grab <input type="checkbox"/> Composite			5 Analyses Requested (continued) NWTPH DX <input checked="" type="checkbox"/> WAWPH <input type="checkbox"/> WAEPH <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAWPH <input type="checkbox"/> WAEPH <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> WAWPH <input type="checkbox"/> WAEPH <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input 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# 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 Client Information			4 Matrix			5 Analyses Requested										6 Remarks	
Facility # <u>Edmonds Terminal</u> WBS Site Address <u>11720 Unoco Rd, Edmonds, WA / Arcadis</u> Chevron PM <u>Kim Jolitz</u> Lead Consultant Consultant/Office <u>Arcadis, 1100 Olive Way, Ste 800, Seattle, WA 98101</u> Consultant Project Mgr. <u>Sam Miles</u> 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"/> Naphth <input type="checkbox"/> 8260 <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"/> <u>CPAHs, 8270 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	
2 Sample Identification Collected Date Time Grab Composite Sampler <u>Dan Gilbert, Kiley Zaubi, Ryan Branchila, Julia Vidovich</u>			Soil _____ Water _____ Oil _____			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"/> <u>CPAHs, 8270 SIM</u>										* Use standard SGC          pg. 2 of 2	
3 MW-517 3/3/21 1242 X MW-520 1/322 1 MW-20R 1/136 1 MW-143 1/1402 1 Trip blank - - 4			Soil _____ Water _____ Oil _____			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"/> <u>CPAHs, 8270 SIM</u>										* Use standard SGC          pg. 2 of 2	
7 Turnaround Time Requested (TAT) (please circle) Standard 5 day 4 day 72 hour 48 hour 24 hour			Relinquished by <u>KILEY ZAUBI</u> Date <u>3-3-21</u> Time <u>1500</u>			Received by <u>FedEx</u> Date <u>3-3-21</u> Time <u>1500</u>			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 <u>[Signature]</u> Date <u>3/5/21</u> Time <u>1150</u>			Temperature Upon Receipt <u>0.5/1.3 °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: 410-31301-1

**Login Number: 31301**

**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: 410-31387-1  
Client Project/Site: Edmonds Terminal  
Revision: 1

For:  
ARCADIS U.S., Inc.  
1100 Olive Way  
Suite 800  
Seattle, Washington 98101

Attn: Ophelie Encelle



Authorized for release by:  
3/31/2021 2:21:29 PM

Amek Carter, Project Manager  
(717)556-7252  
[Loran.Carter@eurofinset.com](mailto:Loran.Carter@eurofinset.com)

### LINKS

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*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 that reads "Amek Carter".

---

Amek Carter  
Project Manager  
3/31/2021 2:21:29 PM



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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## 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
*+	LCS and/or LCSD is outside acceptance limits, high biased.
H	Sample was prepped or analyzed beyond the specified holding time

## 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: 410-31387-1

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## Job ID: 410-31387-1

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### Laboratory: Eurofins Lancaster Laboratories Env, LLC

#### Narrative

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#### Job Narrative 410-31387-1

#### Revision

The report being provided is a revision of the original report sent on 3/19/2021. The report (revision 1) is being revised due to: Report trial 2 results for NWTPH-Dx.

#### Receipt

The samples were received on 3/5/2021 11:31 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° 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.

#### 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 laboratory control sample (LCS) recovered outside upper control limits for the following analytes: C12-C24. The associated sample(s) was re-prepared outside holding time and the LCS is within control limits. Results are reported from the second trial per client request. MW-126 (410-31387-1) and MW-519 (410-31387-2)

No additional analytical or quality issues were noted, other than those described above or 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: 410-31387-1

## Client Sample ID: MW-126

Lab Sample ID: 410-31387-1

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

## Client Sample ID: MW-519

Lab Sample ID: 410-31387-2

No Detections.

## Client Sample ID: MW-521

Lab Sample ID: 410-31387-3

No Detections.

## Client Sample ID: Trip Blank

Lab Sample ID: 410-31387-4

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: 410-31387-1

**Client Sample ID: MW-126**

**Lab Sample ID: 410-31387-1**

Date Collected: 03/04/21 10:27

Matrix: Water

Date Received: 03/05/21 11:31

## 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			03/10/21 00:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/10/21 00:41	1
Dibromofluoromethane (Surr)	100		80 - 120					03/10/21 00:41	1
4-Bromofluorobenzene (Surr)	91		80 - 120					03/10/21 00:41	1
Toluene-d8 (Surr)	103		80 - 120					03/10/21 00:41	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		0.053	0.011	ug/L		03/11/21 10:45	03/12/21 14:38	1
Benzo[a]pyrene	ND		0.053	0.011	ug/L		03/11/21 10:45	03/12/21 14:38	1
Benzo[b]fluoranthene	ND		0.053	0.011	ug/L		03/11/21 10:45	03/12/21 14:38	1
Benzo[k]fluoranthene	ND		0.053	0.011	ug/L		03/11/21 10:45	03/12/21 14:38	1
Chrysene	ND		0.053	0.011	ug/L		03/11/21 10:45	03/12/21 14:38	1
Dibenz(a,h)anthracene	ND		0.053	0.021	ug/L		03/11/21 10:45	03/12/21 14:38	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.021	ug/L		03/11/21 10:45	03/12/21 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	71		10 - 122				03/11/21 10:45	03/12/21 14:38	1
1-Methylnaphthalene-d10 (Surr)	81		49 - 115				03/11/21 10:45	03/12/21 14:38	1
Fluoranthene-d10 (Surr)	101		65 - 129				03/11/21 10:45	03/12/21 14:38	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			03/09/21 22:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150					03/09/21 22:24	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	50	ug/L		03/17/21 17:15	03/18/21 22:07	1
C24-C40	ND	H	280	110	ug/L		03/17/21 17:15	03/18/21 22:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1				03/17/21 17:15	03/18/21 22:07	1
o-terphenyl (Surr)	57		50 - 150				03/17/21 17:15	03/18/21 22:07	1

**Client Sample ID: MW-519**

**Lab Sample ID: 410-31387-2**

Date Collected: 03/04/21 09:41

Matrix: Water

Date Received: 03/05/21 11:31

## 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			03/10/21 01:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120					03/10/21 01:04	1
Dibromofluoromethane (Surr)	101		80 - 120					03/10/21 01:04	1
4-Bromofluorobenzene (Surr)	88		80 - 120					03/10/21 01:04	1
Toluene-d8 (Surr)	103		80 - 120					03/10/21 01:04	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

**Client Sample ID: MW-519**

**Lab Sample ID: 410-31387-2**

Date Collected: 03/04/21 09:41

Matrix: Water

Date Received: 03/05/21 11:31

## 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		03/11/21 10:45	03/12/21 15:09	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L		03/11/21 10:45	03/12/21 15:09	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L		03/11/21 10:45	03/12/21 15:09	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L		03/11/21 10:45	03/12/21 15:09	1
Chrysene	ND		0.056	0.011	ug/L		03/11/21 10:45	03/12/21 15:09	1
Dibenz(a,h)anthracene	ND		0.056	0.022	ug/L		03/11/21 10:45	03/12/21 15:09	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.022	ug/L		03/11/21 10:45	03/12/21 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	75		10 - 122	03/11/21 10:45	03/12/21 15:09	1
1-Methylnaphthalene-d10 (Surr)	79		49 - 115	03/11/21 10:45	03/12/21 15:09	1
Fluoranthene-d10 (Surr)	98		65 - 129	03/11/21 10:45	03/12/21 15:09	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			03/09/21 22:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 22:47	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	50	ug/L		03/17/21 17:15	03/18/21 22:30	1
C24-C40	ND	H	280	110	ug/L		03/17/21 17:15	03/18/21 22:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 22:30	1
o-terphenyl (Surr)	64		50 - 150	03/17/21 17:15	03/18/21 22:30	1

**Client Sample ID: MW-521**

**Lab Sample ID: 410-31387-3**

Date Collected: 03/04/21 09:36

Matrix: Water

Date Received: 03/05/21 11:31

## 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			03/10/21 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		03/10/21 01:26	1
Dibromofluoromethane (Surr)	100		80 - 120		03/10/21 01:26	1
4-Bromofluorobenzene (Surr)	88		80 - 120		03/10/21 01:26	1
Toluene-d8 (Surr)	101		80 - 120		03/10/21 01:26	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		0.054	0.011	ug/L		03/11/21 10:45	03/12/21 15:40	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L		03/11/21 10:45	03/12/21 15:40	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L		03/11/21 10:45	03/12/21 15:40	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L		03/11/21 10:45	03/12/21 15:40	1
Chrysene	ND		0.054	0.011	ug/L		03/11/21 10:45	03/12/21 15:40	1
Dibenz(a,h)anthracene	ND		0.054	0.021	ug/L		03/11/21 10:45	03/12/21 15:40	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.021	ug/L		03/11/21 10:45	03/12/21 15:40	1

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# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

**Client Sample ID: MW-521**

**Lab Sample ID: 410-31387-3**

Date Collected: 03/04/21 09:36

Matrix: Water

Date Received: 03/05/21 11:31

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	64		10 - 122	03/11/21 10:45	03/12/21 15:40	1
1-Methylnaphthalene-d10 (Surr)	81		49 - 115	03/11/21 10:45	03/12/21 15:40	1
Fluoranthene-d10 (Surr)	98		65 - 129	03/11/21 10:45	03/12/21 15:40	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			03/09/21 23:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 23:11	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	*+	100	47	ug/L		03/10/21 17:00	03/16/21 12:31	1
C24-C40	ND		260	100	ug/L		03/10/21 17:00	03/16/21 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1	03/10/21 17:00	03/16/21 12:31	1
o-terphenyl (Surr)	61		50 - 150	03/10/21 17:00	03/16/21 12:31	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-31387-4**

Date Collected: 03/04/21 00:00

Matrix: Water

Date Received: 03/05/21 11:31

**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			03/09/21 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		03/09/21 22:04	1
Dibromofluoromethane (Surr)	102		80 - 120		03/09/21 22:04	1
4-Bromofluorobenzene (Surr)	89		80 - 120		03/09/21 22:04	1
Toluene-d8 (Surr)	105		80 - 120		03/09/21 22:04	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			03/09/21 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150		03/09/21 21:14	1



# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## 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)
410-31387-1	MW-126	103	100	91	103
410-31387-2	MW-519	103	101	88	103
410-31387-3	MW-521	104	100	88	101
410-31387-4	Trip Blank	106	102	89	105
LCS 410-101290/4	Lab Control Sample	100	95	96	105
LCSD 410-101290/5	Lab Control Sample Dup	103	99	96	106
MB 410-101290/7	Method Blank	107	98	91	102

**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)
410-31387-1	MW-126	71	81	101
410-31387-2	MW-519	75	79	98
410-31387-3	MW-521	64	81	98
LCS 410-101996/2-A	Lab Control Sample	96	86	96
MB 410-101996/1-A	Method Blank	89	85	97

**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)
410-31387-1	MW-126	91
410-31387-2	MW-519	91
410-31387-3	MW-521	91
410-31387-4	Trip Blank	91
LCS 410-101310/5	Lab Control Sample	92
LCSD 410-101310/6	Lab Control Sample Dup	92
MB 410-101310/4	Method Blank	92

**Surrogate Legend**  
TFT-F = a,a,a-Trifluorotoluene (fid)

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

**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)
410-31387-1	MW-126	0.3	57
410-31387-2	MW-519	0.3	64
410-31387-3	MW-521	0.3	61
LCS 410-101756/2-B	Lab Control Sample	1	84
LCS 410-104290/2-B	Lab Control Sample	0.4	73
MB 410-101756/1-B	Method Blank	0.3	71
MB 410-104290/1-B	Method Blank	0.3	55

### 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: 410-31387-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 410-101290/7**  
**Matrix: Water**  
**Analysis Batch: 101290**

**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			03/09/21 21:02	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 120					03/09/21 21:02	1
Dibromofluoromethane (Surr)	98		80 - 120					03/09/21 21:02	1
4-Bromofluorobenzene (Surr)	91		80 - 120					03/09/21 21:02	1
Toluene-d8 (Surr)	102		80 - 120					03/09/21 21:02	1

**Lab Sample ID: LCS 410-101290/4**  
**Matrix: Water**  
**Analysis Batch: 101290**

**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	19.3		ug/L		97	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	100		80 - 120				
Dibromofluoromethane (Surr)	95		80 - 120				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Toluene-d8 (Surr)	105		80 - 120				

**Lab Sample ID: LCSD 410-101290/5**  
**Matrix: Water**  
**Analysis Batch: 101290**

**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	18.8		ug/L		94	80 - 120	3	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		80 - 120						
Dibromofluoromethane (Surr)	99		80 - 120						
4-Bromofluorobenzene (Surr)	96		80 - 120						
Toluene-d8 (Surr)	106		80 - 120						

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 410-101996/1-A**  
**Matrix: Water**  
**Analysis Batch: 102461**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 101996**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L		03/11/21 10:45	03/12/21 08:26	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		03/11/21 10:45	03/12/21 08:26	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		03/11/21 10:45	03/12/21 08:26	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		03/11/21 10:45	03/12/21 08:26	1
Chrysene	ND		0.050	0.010	ug/L		03/11/21 10:45	03/12/21 08:26	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		03/11/21 10:45	03/12/21 08:26	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		03/11/21 10:45	03/12/21 08:26	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## 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)	89		10 - 122	03/11/21 10:45	03/12/21 08:26	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115	03/11/21 10:45	03/12/21 08:26	1
Fluoranthene-d10 (Surr)	97		65 - 129	03/11/21 10:45	03/12/21 08:26	1

Lab Sample ID: LCS 410-101996/2-A  
Matrix: Water  
Analysis Batch: 102461

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 101996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.891		ug/L		89	69 - 119
Benzo[a]pyrene	1.00	0.841		ug/L		84	73 - 117
Benzo[b]fluoranthene	1.00	0.843		ug/L		84	72 - 123
Benzo[k]fluoranthene	1.00	0.800		ug/L		80	66 - 124
Chrysene	1.00	0.719		ug/L		72	61 - 117
Dibenz(a,h)anthracene	1.00	0.838		ug/L		84	60 - 118
Indeno[1,2,3-cd]pyrene	1.00	0.921		ug/L		92	57 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	96		10 - 122
1-Methylnaphthalene-d10 (Surr)	86		49 - 115
Fluoranthene-d10 (Surr)	96		65 - 129

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-101310/4  
Matrix: Water  
Analysis Batch: 101310

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			03/09/21 19:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		03/09/21 19:41	1

Lab Sample ID: LCS 410-101310/5  
Matrix: Water  
Analysis Batch: 101310

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	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

Lab Sample ID: LCSD 410-101310/6  
Matrix: Water  
Analysis Batch: 101310

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	1100		ug/L		100	64 - 131	5	30

Eurofins Lancaster Laboratories Env, LLC

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCSD 410-101310/6**  
**Matrix: Water**  
**Analysis Batch: 101310**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

**Lab Sample ID: MB 410-101756/1-B**  
**Matrix: Water**  
**Analysis Batch: 103262**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 101756**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		03/10/21 17:00	03/16/21 02:42	1
C24-C40	ND		250	100	ug/L		03/10/21 17:00	03/16/21 02:42	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
n-Decanoic Acid (Surr)	0.3		0 - 1	03/10/21 17:00	03/16/21 02:42	1
o-terphenyl (Surr)	71		50 - 150	03/10/21 17:00	03/16/21 02:42	1

**Lab Sample ID: LCS 410-101756/2-B**  
**Matrix: Water**  
**Analysis Batch: 103262**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 101756**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	602	859	*+	ug/L		143	10 - 115

Surrogate	LCS		Limits
	%Recovery	Qualifier	
n-Decanoic Acid (Surr)	1		0 - 1
o-terphenyl (Surr)	84		50 - 150

**Lab Sample ID: MB 410-104290/1-B**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C12-C24	ND		100	45	ug/L		03/17/21 17:15	03/18/21 14:11	1
C24-C40	ND		250	100	ug/L		03/17/21 17:15	03/18/21 14:11	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
n-Decanoic Acid (Surr)	0.3		0 - 1	03/17/21 17:15	03/18/21 14:11	1
o-terphenyl (Surr)	55		50 - 150	03/17/21 17:15	03/18/21 14:11	1

**Lab Sample ID: LCS 410-104290/2-B**  
**Matrix: Water**  
**Analysis Batch: 104620**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 104290**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
C12-C24	602	205		ug/L		34	10 - 115

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: LCS 410-104290/2-B  
Matrix: Water  
Analysis Batch: 104620

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 104290

<u>Surrogate</u>	<u>LCS LCS</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
<i>n-Decanoic Acid (Surr)</i>	0.4		0 - 1
<i>o-terphenyl (Surr)</i>	73		50 - 150

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# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## GC/MS VOA

### Analysis Batch: 101290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	8260D	
410-31387-2	MW-519	Total/NA	Water	8260D	
410-31387-3	MW-521	Total/NA	Water	8260D	
410-31387-4	Trip Blank	Total/NA	Water	8260D	
MB 410-101290/7	Method Blank	Total/NA	Water	8260D	
LCS 410-101290/4	Lab Control Sample	Total/NA	Water	8260D	
LCS 410-101290/5	Lab Control Sample Dup	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 101996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	3510C	
410-31387-2	MW-519	Total/NA	Water	3510C	
410-31387-3	MW-521	Total/NA	Water	3510C	
MB 410-101996/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-101996/2-A	Lab Control Sample	Total/NA	Water	3510C	

### Analysis Batch: 102461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	8270D SIM	101996
410-31387-2	MW-519	Total/NA	Water	8270D SIM	101996
410-31387-3	MW-521	Total/NA	Water	8270D SIM	101996
MB 410-101996/1-A	Method Blank	Total/NA	Water	8270D SIM	101996
LCS 410-101996/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	101996

## GC VOA

### Analysis Batch: 101310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	NWTPH-Gx	
410-31387-2	MW-519	Total/NA	Water	NWTPH-Gx	
410-31387-3	MW-521	Total/NA	Water	NWTPH-Gx	
410-31387-4	Trip Blank	Total/NA	Water	NWTPH-Gx	
MB 410-101310/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-101310/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 410-101310/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

## GC Semi VOA

### Prep Batch: 101756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-3	MW-521	Total/NA	Water	3510C	
MB 410-101756/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	3510C	

### Cleanup Batch: 103039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-3	MW-521	Total/NA	Water	3630C	101756
MB 410-101756/1-B	Method Blank	Total/NA	Water	3630C	101756
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	3630C	101756

Eurofins Lancaster Laboratories Env, LLC

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

## GC Semi VOA

### Analysis Batch: 103262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-3	MW-521	Total/NA	Water	NWTPH-Dx	103039
MB 410-101756/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	103039
LCS 410-101756/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	103039

### Prep Batch: 104290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	3510C	
410-31387-2	MW-519	Total/NA	Water	3510C	
MB 410-104290/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	3510C	

### Cleanup Batch: 104424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	3630C	104290
410-31387-2	MW-519	Total/NA	Water	3630C	104290
MB 410-104290/1-B	Method Blank	Total/NA	Water	3630C	104290
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	3630C	104290

### Analysis Batch: 104620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31387-1	MW-126	Total/NA	Water	NWTPH-Dx	104424
410-31387-2	MW-519	Total/NA	Water	NWTPH-Dx	104424
MB 410-104290/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	104424
LCS 410-104290/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	104424



# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

**Client Sample ID: MW-126**

**Lab Sample ID: 410-31387-1**

**Date Collected: 03/04/21 10:27**

**Matrix: Water**

**Date Received: 03/05/21 11:31**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101290	03/10/21 00:41	UCB5	ELLE
Total/NA	Prep	3510C			101996	03/11/21 10:45	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	102461	03/12/21 14:38	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	101310	03/09/21 22:24	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 22:07	IUSB	ELLE

**Client Sample ID: MW-519**

**Lab Sample ID: 410-31387-2**

**Date Collected: 03/04/21 09:41**

**Matrix: Water**

**Date Received: 03/05/21 11:31**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101290	03/10/21 01:04	UCB5	ELLE
Total/NA	Prep	3510C			101996	03/11/21 10:45	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	102461	03/12/21 15:09	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	101310	03/09/21 22:47	JJT8	ELLE
Total/NA	Prep	3510C			104290	03/17/21 17:15	DFX4	ELLE
Total/NA	Cleanup	3630C			104424	03/18/21 00:00	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	104620	03/18/21 22:30	IUSB	ELLE

**Client Sample ID: MW-521**

**Lab Sample ID: 410-31387-3**

**Date Collected: 03/04/21 09:36**

**Matrix: Water**

**Date Received: 03/05/21 11:31**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101290	03/10/21 01:26	UCB5	ELLE
Total/NA	Prep	3510C			101996	03/11/21 10:45	R9CT	ELLE
Total/NA	Analysis	8270D SIM		1	102461	03/12/21 15:40	UWHS	ELLE
Total/NA	Analysis	NWTPH-Gx		1	101310	03/09/21 23:11	JJT8	ELLE
Total/NA	Prep	3510C			101756	03/10/21 17:00	DFX4	ELLE
Total/NA	Cleanup	3630C			103039	03/15/21 01:39	USL7	ELLE
Total/NA	Analysis	NWTPH-Dx		1	103262	03/16/21 12:31	KP5X	ELLE

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-31387-4**

**Date Collected: 03/04/21 00:00**

**Matrix: Water**

**Date Received: 03/05/21 11:31**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	101290	03/09/21 22:04	UCB5	ELLE
Total/NA	Analysis	NWTPH-Gx		1	101310	03/09/21 21:14	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: 410-31387-1

## 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)

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# Method Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31387-1

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	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: 410-31387-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-31387-1	MW-126	Water	03/04/21 10:27	03/05/21 11:31	
410-31387-2	MW-519	Water	03/04/21 09:41	03/05/21 11:31	
410-31387-3	MW-521	Water	03/04/21 09:36	03/05/21 11:31	
410-31387-4	Trip Blank	Water	03/04/21 00:00	03/05/21 11:31	

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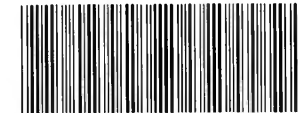
15

# Chevron Northwest Region Analysis Request



Lancaster Laboratories

Acct. # \_\_\_\_\_ Group # \_\_\_\_\_ Sample # \_\_\_\_\_  
 For Lancaster Laboratories use only  
 Instructions on reverse side correspond with circled number



410-31387 Chain of Custody

body

1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks						
Facility # _____ WBS Edmonds Terminal				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface				<input type="checkbox"/> Total Number of Containers <input type="checkbox"/> BTEX-MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> Naphth <input checked="" type="checkbox"/> 8260 full scan <input type="checkbox"/> Oxygenates <input type="checkbox"/> NWTPH GX <input checked="" type="checkbox"/> 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"/> WAPPH <input type="checkbox"/> WAEPH CPAMS 8270C SIM										SCR #: _____						
Site Address 11720 Unoco Rd Edmonds, WA				<input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air														<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 Consultant/Office 1100 Olive Way Suite 800 Seattle WA 98101 Consultant Project Mgr. Sam Miles Consultant Phone # _____				Lead Consultant Arcadis																				
Sampler Trevor Bryant, Kiley Zaubi				3 Composite <input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil																				
2 Sample Identification		Collected		3 Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX-MTBE 8021	8260	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAPPH	WAEPH	CPAMS 8270C SIM	6 Remarks		
Date	Time																							
MW-126	3-4-21	1027	X				X		100	X			X	X									*Use Standard SGC	
MW-519	3-4-21	0941	X				X		100	X			X	X										
MW-521	3-4-21	0930	X				X		100	X			X	X										
TRIP BLANK	—	—	—				—		4	X			X	X										
7 Turnaround Time Requested (TAT) (please circle) Standard 5 day 4 day 72 hour 48 hour 24 hour				Relinquished by KILEY ZAUBI Date 3-4-21 Time 1500				Received by FedEx Date 3-4-21 Time 1500				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 3/5/21 Time 11/31				Temperature Upon Receipt 1.3 °C				Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								

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# Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-31387-1

**Login Number: 31387**

**List Source: Eurofins Lancaster Laboratories Env**

**List Number: 1**

**Creator: Jeremiah, Cory T**

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: 410-31003-1  
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:  
3/9/2021 11:58:04 AM

Amek Carter, Project Manager  
(717)556-7252  
[Loran.Carter@eurofinset.com](mailto:Loran.Carter@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://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 black ink that reads "Amek Carter".

---

Amek Carter  
Project Manager  
3/9/2021 11:58:04 AM





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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## 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.

## 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: 410-31003-1

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## Job ID: 410-31003-1

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Laboratory: Eurofins Lancaster Laboratories Env, LLC

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### Narrative

#### Job Narrative 410-31003-1

#### Receipt

The samples were received on 3/3/2021 11:48 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -1.6°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

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: 410-31003-1

## Client Sample ID: MW-104-W-210301

Lab Sample ID: 410-31003-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	270		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: MW-503-W-210301

Lab Sample ID: 410-31003-2

No Detections.

## Client Sample ID: MW-518-W-210301

Lab Sample ID: 410-31003-3

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
C12-C24	52	J	110	49	ug/L	1		NWTPH-Dx	Total/NA

## Client Sample ID: DUP-1-WD-210301

Lab Sample ID: 410-31003-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	41	J	250	19	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	180		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	710		270	110	ug/L	1		NWTPH-Dx	Total/NA

## Client Sample ID: DUP-2-WD-210301

Lab Sample ID: 410-31003-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	290		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: DUP-3-WD-210301

Lab Sample ID: 410-31003-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	730		250	19	ug/L	1		NWTPH-Gx	Total/NA

## Client Sample ID: QA-T-210301

Lab Sample ID: 410-31003-7

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: 410-31003-1

**Client Sample ID: MW-104-W-210301**

**Lab Sample ID: 410-31003-1**

Date Collected: 03/01/21 14:40

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/05/21 02:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					03/05/21 02:19	1
Dibromofluoromethane (Surr)	98		80 - 120					03/05/21 02:19	1
4-Bromofluorobenzene (Surr)	100		80 - 120					03/05/21 02:19	1
Toluene-d8 (Surr)	99		80 - 120					03/05/21 02:19	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		0.054	0.011	ug/L			03/08/21 18:05	1
Benzo[a]pyrene	ND		0.054	0.011	ug/L			03/08/21 18:05	1
Benzo[b]fluoranthene	ND		0.054	0.011	ug/L			03/08/21 18:05	1
Benzo[k]fluoranthene	ND		0.054	0.011	ug/L			03/08/21 18:05	1
Chrysene	ND		0.054	0.011	ug/L			03/08/21 18:05	1
Dibenz(a,h)anthracene	ND		0.054	0.022	ug/L			03/08/21 18:05	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.022	ug/L			03/08/21 18:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	48		10 - 122					03/08/21 18:05	1
1-Methylnaphthalene-d10 (Surr)	87		49 - 115					03/08/21 18:05	1
Fluoranthene-d10 (Surr)	93		65 - 129					03/08/21 18:05	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	270		250	19	ug/L			03/04/21 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150					03/04/21 20:55	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	48	ug/L			03/05/21 10:40	1
C24-C40	ND		270	110	ug/L			03/05/21 10:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1					03/05/21 10:40	1
o-terphenyl (Surr)	63		50 - 150					03/05/21 10:40	1

**Client Sample ID: MW-503-W-210301**

**Lab Sample ID: 410-31003-2**

Date Collected: 03/01/21 14:30

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/05/21 02:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120					03/05/21 02:39	1
Dibromofluoromethane (Surr)	97		80 - 120					03/05/21 02:39	1
4-Bromofluorobenzene (Surr)	99		80 - 120					03/05/21 02:39	1
Toluene-d8 (Surr)	99		80 - 120					03/05/21 02:39	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

**Client Sample ID: MW-503-W-210301**

**Lab Sample ID: 410-31003-2**

Date Collected: 03/01/21 14:30

Matrix: Water

Date Received: 03/03/21 11:48

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.052	0.010	ug/L			03/08/21 21:38	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L			03/08/21 21:38	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 21:38	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 21:38	1
Chrysene	ND		0.052	0.010	ug/L			03/08/21 21:38	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L			03/08/21 21:38	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L			03/08/21 21:38	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Benzo(a)pyrene-d12 (Surr)	81		10 - 122					03/08/21 21:38	1
1-Methylnaphthalene-d10 (Surr)	90		49 - 115					03/08/21 21:38	1
Fluoranthene-d10 (Surr)	95		65 - 129					03/08/21 21:38	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			03/04/21 21:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150					03/04/21 21:20	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			03/05/21 11:25	1
C24-C40	ND		250	100	ug/L			03/05/21 11:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Decanoic Acid (Surr)	0.3		0 - 1					03/05/21 11:25	1
o-terphenyl (Surr)	74		50 - 150					03/05/21 11:25	1

**Client Sample ID: MW-518-W-210301**

**Lab Sample ID: 410-31003-3**

Date Collected: 03/01/21 15:40

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/05/21 02:59	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	102		80 - 120					03/05/21 02:59	1
Dibromofluoromethane (Surr)	98		80 - 120					03/05/21 02:59	1
4-Bromofluorobenzene (Surr)	100		80 - 120					03/05/21 02:59	1
Toluene-d8 (Surr)	99		80 - 120					03/05/21 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		0.052	0.010	ug/L			03/08/21 22:07	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L			03/08/21 22:07	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 22:07	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 22:07	1
Chrysene	ND		0.052	0.010	ug/L			03/08/21 22:07	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L			03/08/21 22:07	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L			03/08/21 22:07	1

Eurofins Lancaster Laboratories Env, LLC

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

**Client Sample ID: MW-518-W-210301**

**Lab Sample ID: 410-31003-3**

Date Collected: 03/01/21 15:40

Matrix: Water

Date Received: 03/03/21 11:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	63		10 - 122		03/08/21 22:07	1
1-Methylnaphthalene-d10 (Surr)	108		49 - 115		03/08/21 22:07	1
Fluoranthene-d10 (Surr)	100		65 - 129		03/08/21 22:07	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			03/04/21 21:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150		03/04/21 21:46	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	52	J	110	49	ug/L			03/05/21 11:48	1
C24-C40	ND		270	110	ug/L			03/05/21 11:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1		03/05/21 11:48	1
o-terphenyl (Surr)	67		50 - 150		03/05/21 11:48	1

**Client Sample ID: DUP-1-WD-210301**

**Lab Sample ID: 410-31003-4**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/05/21 03:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/05/21 03:19	1
Dibromofluoromethane (Surr)	98		80 - 120		03/05/21 03:19	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/05/21 03:19	1
Toluene-d8 (Surr)	98		80 - 120		03/05/21 03:19	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		0.052	0.010	ug/L			03/08/21 22:35	1
Benzo[a]pyrene	ND		0.052	0.010	ug/L			03/08/21 22:35	1
Benzo[b]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 22:35	1
Benzo[k]fluoranthene	ND		0.052	0.010	ug/L			03/08/21 22:35	1
Chrysene	ND		0.052	0.010	ug/L			03/08/21 22:35	1
Dibenz(a,h)anthracene	ND		0.052	0.021	ug/L			03/08/21 22:35	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.021	ug/L			03/08/21 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	73		10 - 122		03/08/21 22:35	1
1-Methylnaphthalene-d10 (Surr)	85		49 - 115		03/08/21 22:35	1
Fluoranthene-d10 (Surr)	84		65 - 129		03/08/21 22:35	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			03/04/21 22:12	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

**Client Sample ID: DUP-1-WD-210301**

**Lab Sample ID: 410-31003-4**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	84		50 - 150		03/04/21 22:12	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	180		110	49	ug/L			03/05/21 12:10	1
C24-C40	710		270	110	ug/L			03/05/21 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	1		0 - 1		03/05/21 12:10	1
o-terphenyl (Surr)	80		50 - 150		03/05/21 12:10	1

**Client Sample ID: DUP-2-WD-210301**

**Lab Sample ID: 410-31003-5**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/05/21 03:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		03/05/21 03:40	1
Dibromofluoromethane (Surr)	97		80 - 120		03/05/21 03:40	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/05/21 03:40	1
Toluene-d8 (Surr)	98		80 - 120		03/05/21 03:40	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			03/08/21 23:04	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L			03/08/21 23:04	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L			03/08/21 23:04	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L			03/08/21 23:04	1
Chrysene	ND		0.051	0.010	ug/L			03/08/21 23:04	1
Dibenz(a,h)anthracene	ND		0.051	0.020	ug/L			03/08/21 23:04	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.020	ug/L			03/08/21 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	50		10 - 122		03/08/21 23:04	1
1-Methylnaphthalene-d10 (Surr)	82		49 - 115		03/08/21 23:04	1
Fluoranthene-d10 (Surr)	87		65 - 129		03/08/21 23:04	1

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	290		250	19	ug/L			03/04/21 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150		03/04/21 22:38	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L			03/05/21 12:33	1
C24-C40	ND		260	100	ug/L			03/05/21 12:33	1



# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## Client Sample ID: DUP-2-WD-210301

Lab Sample ID: 410-31003-5

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1		03/05/21 12:33	1
<i>o</i> -terphenyl (Surr)	64		50 - 150		03/05/21 12:33	1

## Client Sample ID: DUP-3-WD-210301

Lab Sample ID: 410-31003-6

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

### 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			03/05/21 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		03/05/21 04:00	1
Dibromofluoromethane (Surr)	97		80 - 120		03/05/21 04:00	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/05/21 04:00	1
Toluene-d8 (Surr)	99		80 - 120		03/05/21 04:00	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		0.056	0.011	ug/L			03/08/21 23:32	1
Benzo[a]pyrene	ND		0.056	0.011	ug/L			03/08/21 23:32	1
Benzo[b]fluoranthene	ND		0.056	0.011	ug/L			03/08/21 23:32	1
Benzo[k]fluoranthene	ND		0.056	0.011	ug/L			03/08/21 23:32	1
Chrysene	ND		0.056	0.011	ug/L			03/08/21 23:32	1
Dibenz(a,h)anthracene	ND		0.056	0.022	ug/L			03/08/21 23:32	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.022	ug/L			03/08/21 23:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	62		10 - 122		03/08/21 23:32	1
1-Methylnaphthalene-d10 (Surr)	102		49 - 115		03/08/21 23:32	1
Fluoranthene-d10 (Surr)	97		65 - 129		03/08/21 23:32	1

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	730		250	19	ug/L			03/04/21 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene (fid) (1C)	83		50 - 150		03/04/21 23:04	1

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	49	ug/L			03/05/21 12:56	1
C24-C40	ND		270	110	ug/L			03/05/21 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Decanoic Acid (Surr)	0.3		0 - 1		03/05/21 12:56	1
<i>o</i> -terphenyl (Surr)	72		50 - 150		03/05/21 12:56	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Edmonds Terminal

Job ID: 410-31003-1

**Client Sample ID: QA-T-210301**

**Lab Sample ID: 410-31003-7**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

**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			03/04/21 22:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					03/04/21 22:18	1
Dibromofluoromethane (Surr)	98		80 - 120					03/04/21 22:18	1
4-Bromofluorobenzene (Surr)	99		80 - 120					03/04/21 22:18	1
Toluene-d8 (Surr)	99		80 - 120					03/04/21 22:18	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			03/04/21 20:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150					03/04/21 20:29	1

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## 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)
410-31003-1	MW-104-W-210301	100	98	100	99
410-31003-2	MW-503-W-210301	100	97	99	99
410-31003-3	MW-518-W-210301	102	98	100	99
410-31003-4	DUP-1-WD-210301	102	98	98	98
410-31003-5	DUP-2-WD-210301	102	97	99	98
410-31003-6	DUP-3-WD-210301	100	97	100	99
410-31003-7	QA-T-210301	101	98	99	99
LCS 410-99827/4	Lab Control Sample	101	97	99	100
LCS 410-99827/5	Lab Control Sample Dup	100	97	99	100
MB 410-99827/7	Method Blank	101	97	99	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)
410-31003-1	MW-104-W-210301	48	87	93
410-31003-2	MW-503-W-210301	81	90	95
410-31003-3	MW-518-W-210301	63	108	100
410-31003-4	DUP-1-WD-210301	73	85	84
410-31003-5	DUP-2-WD-210301	50	82	87
410-31003-6	DUP-3-WD-210301	62	102	97
LCS 410-99978/2-A	Lab Control Sample	88	80	86
MB 410-99978/1-A	Method Blank	79	74	79

### 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)
410-31003-1	MW-104-W-210301	90
410-31003-2	MW-503-W-210301	84
410-31003-3	MW-518-W-210301	84
410-31003-4	DUP-1-WD-210301	84
410-31003-5	DUP-2-WD-210301	90
410-31003-6	DUP-3-WD-210301	83
410-31003-7	QA-T-210301	85
LCS 410-99772/6	Lab Control Sample	77

## Surrogate Summary

Client: ARCADIS U.S., Inc.  
 Project/Site: Edmonds Terminal

Job ID: 410-31003-1

### 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)	
LCS 410-99772/7	Lab Control Sample Dup	77	
MB 410-99772/5	Method Blank	85	
<b>Surrogate Legend</b>			
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)
410-31003-1	MW-104-W-210301	0.3	63
410-31003-1 DU	MW-104-W-210301	0.3	67
410-31003-2	MW-503-W-210301	0.3	74
410-31003-3	MW-518-W-210301	0.3	67
410-31003-4	DUP-1-WD-210301	1	80
410-31003-5	DUP-2-WD-210301	0.3	64
410-31003-6	DUP-3-WD-210301	0.3	72
LCS 410-99746/2-B	Lab Control Sample	0.4	69
LCS 410-99746/3-B	Lab Control Sample Dup	0.4	75
MB 410-99746/1-B	Method Blank	0.3	52
<b>Surrogate Legend</b>			
NDA = n-Decanoic Acid (Surr)			
OTP = o- terphenyl (Surr)			

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-99827/7

Matrix: Water

Analysis Batch: 99827

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			03/04/21 21:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					03/04/21 21:31	1
Dibromofluoromethane (Surr)	97		80 - 120					03/04/21 21:31	1
4-Bromofluorobenzene (Surr)	99		80 - 120					03/04/21 21:31	1
Toluene-d8 (Surr)	99		80 - 120					03/04/21 21:31	1

Lab Sample ID: LCS 410-99827/4

Matrix: Water

Analysis Batch: 99827

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	17.9		ug/L		90	80 - 120	
Surrogate	%Recovery	Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					
Dibromofluoromethane (Surr)	97		80 - 120					
4-Bromofluorobenzene (Surr)	99		80 - 120					
Toluene-d8 (Surr)	100		80 - 120					

Lab Sample ID: LCSD 410-99827/5

Matrix: Water

Analysis Batch: 99827

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	17.0		ug/L		85	80 - 120	5	30
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	100		80 - 120						
Dibromofluoromethane (Surr)	97		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 410-99978/1-A

Matrix: Water

Analysis Batch: 100234

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.050	0.010	ug/L			03/05/21 18:30	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L			03/05/21 18:30	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L			03/05/21 18:30	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L			03/05/21 18:30	1
Chrysene	ND		0.050	0.010	ug/L			03/05/21 18:30	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L			03/05/21 18:30	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L			03/05/21 18:30	1

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## 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)	79		10 - 122		03/05/21 18:30	1
1-Methylnaphthalene-d10 (Surr)	74		49 - 115		03/05/21 18:30	1
Fluoranthene-d10 (Surr)	79		65 - 129		03/05/21 18:30	1

Lab Sample ID: LCS 410-99978/2-A

Matrix: Water

Analysis Batch: 100234

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzo[a]anthracene	1.00	0.882		ug/L		88	69 - 119	
Benzo[a]pyrene	1.00	0.937		ug/L		94	73 - 117	
Benzo[b]fluoranthene	1.00	0.898		ug/L		90	72 - 123	
Benzo[k]fluoranthene	1.00	0.903		ug/L		90	66 - 124	
Chrysene	1.00	0.865		ug/L		86	61 - 117	
Dibenz(a,h)anthracene	1.00	0.983		ug/L		98	60 - 118	
Indeno[1,2,3-cd]pyrene	1.00	1.24		ug/L		124	57 - 134	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Benzo(a)pyrene-d12 (Surr)	88		10 - 122
1-Methylnaphthalene-d10 (Surr)	80		49 - 115
Fluoranthene-d10 (Surr)	86		65 - 129

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-99772/5

Matrix: Water

Analysis Batch: 99772

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			03/04/21 19:11	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150		03/04/21 19:11	1

Lab Sample ID: LCS 410-99772/6

Matrix: Water

Analysis Batch: 99772

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	LCS LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150

Lab Sample ID: LCSD 410-99772/7

Matrix: Water

Analysis Batch: 99772

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	3	30	

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-99772/7  
Matrix: Water  
Analysis Batch: 99772

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	77		50 - 150

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-99746/1-B  
Matrix: Water  
Analysis Batch: 99964

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L			03/05/21 09:32	1
C24-C40	ND		250	100	ug/L			03/05/21 09:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Decanoic Acid (Surr)	0.3		0 - 1		03/05/21 09:32	1
o-terphenyl (Surr)	52		50 - 150		03/05/21 09:32	1

Lab Sample ID: LCS 410-99746/2-B  
Matrix: Water  
Analysis Batch: 99964

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C12-C24	602	244		ug/L		41	10 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Decanoic Acid (Surr)	0.4		0 - 1
o-terphenyl (Surr)	69		50 - 150

Lab Sample ID: LCSD 410-99746/3-B  
Matrix: Water  
Analysis Batch: 99964

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
C12-C24	602	239		ug/L		40	10 - 115	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Decanoic Acid (Surr)	0.4		0 - 1
o-terphenyl (Surr)	75		50 - 150

Lab Sample ID: 410-31003-1 DU  
Matrix: Water  
Analysis Batch: 99964

Client Sample ID: MW-104-W-210301  
Prep Type: Total/NA

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

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: 410-31003-1 DU

Matrix: Water

Analysis Batch: 99964

Client Sample ID: MW-104-W-210301

Prep Type: Total/NA

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
<i>n-Decanoic Acid (Surr)</i>	0.3		0 - 1
<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: 410-31003-1

## GC/MS VOA

### Analysis Batch: 99827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-1	MW-104-W-210301	Total/NA	Water	8260D	
410-31003-2	MW-503-W-210301	Total/NA	Water	8260D	
410-31003-3	MW-518-W-210301	Total/NA	Water	8260D	
410-31003-4	DUP-1-WD-210301	Total/NA	Water	8260D	
410-31003-5	DUP-2-WD-210301	Total/NA	Water	8260D	
410-31003-6	DUP-3-WD-210301	Total/NA	Water	8260D	
410-31003-7	QA-T-210301	Total/NA	Water	8260D	
MB 410-99827/7	Method Blank	Total/NA	Water	8260D	
LCS 410-99827/4	Lab Control Sample	Total/NA	Water	8260D	
LCS 410-99827/5	Lab Control Sample Dup	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Analysis Batch: 100234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-99978/1-A	Method Blank	Total/NA	Water	8270D SIM	
LCS 410-99978/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	

### Analysis Batch: 100490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-1	MW-104-W-210301	Total/NA	Water	8270D SIM	

### Analysis Batch: 100848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-2	MW-503-W-210301	Total/NA	Water	8270D SIM	
410-31003-3	MW-518-W-210301	Total/NA	Water	8270D SIM	
410-31003-4	DUP-1-WD-210301	Total/NA	Water	8270D SIM	
410-31003-5	DUP-2-WD-210301	Total/NA	Water	8270D SIM	
410-31003-6	DUP-3-WD-210301	Total/NA	Water	8270D SIM	

## GC VOA

### Analysis Batch: 99772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-1	MW-104-W-210301	Total/NA	Water	NWTPH-Gx	
410-31003-2	MW-503-W-210301	Total/NA	Water	NWTPH-Gx	
410-31003-3	MW-518-W-210301	Total/NA	Water	NWTPH-Gx	
410-31003-4	DUP-1-WD-210301	Total/NA	Water	NWTPH-Gx	
410-31003-5	DUP-2-WD-210301	Total/NA	Water	NWTPH-Gx	
410-31003-6	DUP-3-WD-210301	Total/NA	Water	NWTPH-Gx	
410-31003-7	QA-T-210301	Total/NA	Water	NWTPH-Gx	
MB 410-99772/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-99772/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCS 410-99772/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

## GC Semi VOA

### Analysis Batch: 99964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-1	MW-104-W-210301	Total/NA	Water	NWTPH-Dx	
410-31003-2	MW-503-W-210301	Total/NA	Water	NWTPH-Dx	
410-31003-3	MW-518-W-210301	Total/NA	Water	NWTPH-Dx	

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# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## GC Semi VOA (Continued)

### Analysis Batch: 99964 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-31003-4	DUP-1-WD-210301	Total/NA	Water	NWTPH-Dx	
410-31003-5	DUP-2-WD-210301	Total/NA	Water	NWTPH-Dx	
410-31003-6	DUP-3-WD-210301	Total/NA	Water	NWTPH-Dx	
MB 410-99746/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	
LCS 410-99746/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	
LCSD 410-99746/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	
410-31003-1 DU	MW-104-W-210301	Total/NA	Water	NWTPH-Dx	

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

## Client Sample ID: MW-104-W-210301

Lab Sample ID: 410-31003-1

Date Collected: 03/01/21 14:40

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 02:19	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100490	03/08/21 18:05	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 20:55	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 10:40	KP5X	ELLE

## Client Sample ID: MW-503-W-210301

Lab Sample ID: 410-31003-2

Date Collected: 03/01/21 14:30

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 02:39	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100848	03/08/21 21:38	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 21:20	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 11:25	KP5X	ELLE

## Client Sample ID: MW-518-W-210301

Lab Sample ID: 410-31003-3

Date Collected: 03/01/21 15:40

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 02:59	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100848	03/08/21 22:07	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 21:46	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 11:48	KP5X	ELLE

## Client Sample ID: DUP-1-WD-210301

Lab Sample ID: 410-31003-4

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 03:19	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100848	03/08/21 22:35	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 22:12	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 12:10	KP5X	ELLE

## Client Sample ID: DUP-2-WD-210301

Lab Sample ID: 410-31003-5

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 03:40	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100848	03/08/21 23:04	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 22:38	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 12:33	KP5X	ELLE

Eurofins Lancaster Laboratories Env, LLC

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

**Client Sample ID: DUP-3-WD-210301**

**Lab Sample ID: 410-31003-6**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/05/21 04:00	ULCP	ELLE
Total/NA	Analysis	8270D SIM		1	100848	03/08/21 23:32	UJM0	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 23:04	JJT8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	99964	03/05/21 12:56	KP5X	ELLE

**Client Sample ID: QA-T-210301**

**Lab Sample ID: 410-31003-7**

Date Collected: 03/01/21 00:00

Matrix: Water

Date Received: 03/03/21 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	99827	03/04/21 22:18	ULCP	ELLE
Total/NA	Analysis	NWTPH-Gx		1	99772	03/04/21 20:29	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: 410-31003-1

## 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		Water	C12-C24
NWTPH-Gx		Water	C7-C12 (1C)

# Method Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

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	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

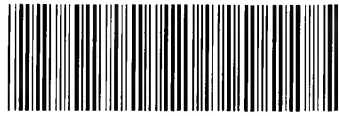


# Sample Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-31003-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-31003-1	MW-104-W-210301	Water	03/01/21 14:40	03/03/21 11:48	
410-31003-2	MW-503-W-210301	Water	03/01/21 14:30	03/03/21 11:48	
410-31003-3	MW-518-W-210301	Water	03/01/21 15:40	03/03/21 11:48	
410-31003-4	DUP-1-WD-210301	Water	03/01/21 00:00	03/03/21 11:48	
410-31003-5	DUP-2-WD-210301	Water	03/01/21 00:00	03/03/21 11:48	
410-31003-6	DUP-3-WD-210301	Water	03/01/21 00:00	03/03/21 11:48	
410-31003-7	QA-T-210301	Water	03/01/21 00:00	03/03/21 11:48	



Lancaster Laboratories  
Environmental

Acct. # \_\_\_\_\_

410-31003 Chain of Custody

Environmental use only  
Sample # \_\_\_\_\_  
with circled numbers.

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										SCR #: _____							
Site Address <u>11720 WACO RD, Edmonds WA Aracdis</u>				Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>			<input type="checkbox"/> Naphth <input type="checkbox"/> 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/> <u>8260</u> <input checked="" type="checkbox"/> <u>8260</u> full scan Oxygenates NWTPH-Gx <u>GRU</u> NWTPH-Dx with Silica Gel Cleanup <input checked="" type="checkbox"/> NWTPH-Dx without Silica Gel Cleanup <input type="checkbox"/> WA VPH <input type="checkbox"/> WA EPH <input type="checkbox"/> Lead <input type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <input type="checkbox"/> <u>CPHs 8260 SIM</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 Jowitz</u>		Lead Consultant _____		Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/>																				
Consultant/Office <u>Seattle 1100 Olive Way, Suite 800, Seattle</u>				Composite <input type="checkbox"/>																				
Consultant Project Mgr. <u>Sam Miles</u>				Grab <input type="checkbox"/>																				
Consultant Phone # _____				Composite <input type="checkbox"/>																				
Sampler <u>Daniel Gilbert, Ryan Brauchla, Kiley Zank</u>				Composite <input type="checkbox"/>																				
2 Sample Identification		Collected		3													6							
		Date	Time	Grab	Composite	Soil	Water	Oil	Total Number of Containers	B	8260 full scan	Oxygenates	NWTPH-Gx	NWTPH-Dx with Silica Gel Cleanup	NWTPH-Dx without Silica Gel Cleanup	WA VPH	WA EPH	Lead	Total	Diss.	Method			
MW-104		3-1-21	1440	X			X		10	X			X	X					X				* use standard reports SGL	
MW-503		3-1-21	1430						10	X			X	X					X					
MW-518		3-1-21	1540						10	X			X	X					X					
DUP-1		3-1-21	-						10	X			X	X					X					
DUP-2		3-1-21	-						10	X			X	X					X					
DUP-3		3-1-21	-						10	X			X	X					X					
Trip Blank		-	-						2				X	X									Rush 5 day turnaround time	
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by			Date			Time			Received by			Date			Time			9		
Standard <input type="checkbox"/> <u>5 day</u> <input type="checkbox"/> 4 day <input type="checkbox"/>				Ryan Brauchla			3-1-21						FedEx											
72 hour <input type="checkbox"/> 48 hour <input type="checkbox"/> 24 hour <input type="checkbox"/>				Relinquished by _____			Date _____			Time _____			Received by _____			Date _____			Time _____					
8 Data Package (circle if required)		EDD (circle if required)		Relinquished by Commercial Carrier:			Date			Time			Received by			Date			Time					
Type I - Full <input type="checkbox"/>		CVX-RTBU-FI_05 (default) <input type="checkbox"/>		UPS <input checked="" type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other _____									MR			3/3/21			1148					
Type VI (Raw Data) <input type="checkbox"/>		Other: _____		Temperature Upon Receipt <u>16</u> °C									Custody Seals Intact? <input checked="" type="checkbox"/>			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								



## Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-31003-1

Login Number: 31003

List Number: 1

Creator: Rivera, Tatiana

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.	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: 410-44584-1  
Client Project/Site: Edmonds Terminal

For:  
ARCADIS U.S., Inc.  
1100 Olive Way  
Suite 800  
Seattle, Washington 98101

Attn: Ophelie Encelle



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Authorized for release by:  
7/2/2021 6:52:15 PM

Amek Carter, Project Manager  
(717)556-7252  
[Loran.Carter@eurofinset.com](mailto:Loran.Carter@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://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 black ink that reads "Amek Carter".

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Amek Carter  
Project Manager  
7/2/2021 6:52:15 PM



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# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## 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.
S1-	Surrogate recovery exceeds control limits, low biased.

### 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.

## 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: 410-44584-1

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## Job ID: 410-44584-1

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### Laboratory: Eurofins Lancaster Laboratories Env, LLC

#### Narrative

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**Job Narrative**  
**410-44584-1**

#### Receipt

The samples were received on 6/23/2021 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.7°C

#### Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: MW-525 (410-44584-1) and MW-526 (410-44584-2). Collection time entered per the container labels.

#### 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: The surrogate recoveries for the method blank (MB) associated with preparation batch 410-143125 were outside the lower control limits. The associated sample(s) did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC VOA

Method RSK\_175: The continuing calibration verification (CCV) was analyzed outside of the 24 hour window of the previous CCV. The CCV met method criteria, therefore, the data have been reported. MW-525 (410-44584-1) and MW-526 (410-44584-2).

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: 410-44584-1

## Client Sample ID: MW-525

Lab Sample ID: 410-44584-1

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
Methane (1C)	1900		50	30	ug/L	10			RSK-175	Total/NA
Nitrogen, Nitrate	0.85		0.50	0.25	mg/L	5			EPA 300.0 R2.1	Total/NA
Sulfate	59		5.0	1.5	mg/L	5			EPA 300.0 R2.1	Total/NA
Manganese	1.2		0.0021	0.00065	mg/L	1			200.8 Rev 5.4	Dissolved

## Client Sample ID: MW-526

Lab Sample ID: 410-44584-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
C7-C12 (1C)	580		250	19	ug/L	1			NWTPH-Gx	Total/NA
Methane (1C)	7.1		5.0	3.0	ug/L	1			RSK-175	Total/NA
C12-C24	92	J	110	49	ug/L	1			NWTPH-Dx	Total/NA
Sulfate	12	F1	5.0	1.5	mg/L	5			EPA 300.0 R2.1	Total/NA
Manganese	0.50		0.0021	0.00065	mg/L	1			200.8 Rev 5.4	Dissolved

## Client Sample ID: Trip Blank

Lab Sample ID: 410-44584-3

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: 410-44584-1

**Client Sample ID: MW-525**

**Lab Sample ID: 410-44584-1**

Date Collected: 06/22/21 14:04

Matrix: Water

Date Received: 06/23/21 10:50

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.30	ug/L			07/02/21 14:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					07/02/21 14:27	1
Dibromofluoromethane (Surr)	103		80 - 120					07/02/21 14:27	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/02/21 14:27	1
Toluene-d8 (Surr)	100		80 - 120					07/02/21 14:27	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		06/29/21 09:35	06/29/21 21:20	1
Benzo[a]pyrene	ND		0.051	0.010	ug/L		06/29/21 09:35	06/29/21 21:20	1
Benzo[b]fluoranthene	ND		0.051	0.010	ug/L		06/29/21 09:35	06/29/21 21:20	1
Benzo[k]fluoranthene	ND		0.051	0.010	ug/L		06/29/21 09:35	06/29/21 21:20	1
Chrysene	ND		0.051	0.010	ug/L		06/29/21 09:35	06/29/21 21:20	1
Dibenz(a,h)anthracene	ND		0.051	0.020	ug/L		06/29/21 09:35	06/29/21 21:20	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.020	ug/L		06/29/21 09:35	06/29/21 21:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	57		10 - 110				06/29/21 09:35	06/29/21 21:20	1
1-Methylnaphthalene-d10 (Surr)	74		36 - 111				06/29/21 09:35	06/29/21 21:20	1
Fluoranthene-d10 (Surr)	96		47 - 128				06/29/21 09:35	06/29/21 21:20	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			06/24/21 19:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150					06/24/21 19:28	1

**Method: RSK-175 - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	1900		50	30	ug/L		06/29/21 09:25	06/29/21 15:33	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	93		28 - 140				06/29/21 09:25	06/29/21 15:33	10

**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		06/25/21 02:00	06/28/21 19:21	1
C24-C40	ND		270	110	ug/L		06/25/21 02:00	06/28/21 19:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-terphenyl (Surr)	64		50 - 150				06/25/21 02:00	06/28/21 19:21	1

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	0.85		0.50	0.25	mg/L			06/23/21 20:20	5

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	59		5.0	1.5	mg/L			06/23/21 20:20	5



# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Client Sample ID: MW-525

Lab Sample ID: 410-44584-1

Date Collected: 06/22/21 14:04

Matrix: Water

Date Received: 06/23/21 10:50

### Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.2		0.0021	0.00065	mg/L		06/25/21 07:40	06/25/21 11:29	1

## Client Sample ID: MW-526

Lab Sample ID: 410-44584-2

Date Collected: 06/22/21 12:04

Matrix: Water

Date Received: 06/23/21 10:50

### Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.30	ug/L			07/02/21 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		07/02/21 14:49	1
Dibromofluoromethane (Surr)	105		80 - 120		07/02/21 14:49	1
4-Bromofluorobenzene (Surr)	99		80 - 120		07/02/21 14:49	1
Toluene-d8 (Surr)	98		80 - 120		07/02/21 14:49	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		0.050	0.010	ug/L		06/29/21 09:35	06/29/21 21:51	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		06/29/21 09:35	06/29/21 21:51	1
Benzo[b]fluoranthene	ND		0.050	0.010	ug/L		06/29/21 09:35	06/29/21 21:51	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		06/29/21 09:35	06/29/21 21:51	1
Chrysene	ND		0.050	0.010	ug/L		06/29/21 09:35	06/29/21 21:51	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		06/29/21 09:35	06/29/21 21:51	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		06/29/21 09:35	06/29/21 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	56		10 - 110	06/29/21 09:35	06/29/21 21:51	1
1-Methylnaphthalene-d10 (Surr)	48		36 - 111	06/29/21 09:35	06/29/21 21:51	1
Fluoranthene-d10 (Surr)	86		47 - 128	06/29/21 09:35	06/29/21 21:51	1

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	580		250	19	ug/L			06/24/21 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150		06/24/21 19:51	1

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	7.1		5.0	3.0	ug/L		06/25/21 09:40	06/28/21 06:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Propene (1C)	76		28 - 140	06/25/21 09:40	06/28/21 06:01	1

### Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	92	J	110	49	ug/L		06/25/21 02:00	06/28/21 20:07	1
C24-C40	ND		270	110	ug/L		06/25/21 02:00	06/28/21 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-terphenyl (Surr)	66		50 - 150	06/25/21 02:00	06/28/21 20:07	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

**Client Sample ID: MW-526**

**Lab Sample ID: 410-44584-2**

Date Collected: 06/22/21 12:04

Matrix: Water

Date Received: 06/23/21 10:50

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	F1	0.50	0.25	mg/L			06/23/21 20:42	5

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	12	F1	5.0	1.5	mg/L			06/23/21 20:42	5

**Method: 200.8 Rev 5.4 - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.50		0.0021	0.00065	mg/L		06/25/21 07:40	06/25/21 12:14	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-44584-3**

Date Collected: 06/22/21 00:00

Matrix: Water

Date Received: 06/23/21 10:50

**Method: 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.30	ug/L			07/02/21 13:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 120					07/02/21 13:21	1
Dibromofluoromethane (Surr)	104		80 - 120					07/02/21 13:21	1
4-Bromofluorobenzene (Surr)	93		80 - 120					07/02/21 13:21	1
Toluene-d8 (Surr)	99		80 - 120					07/02/21 13:21	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			06/24/21 14:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	94		50 - 150					06/24/21 14:00	1

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## 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)
410-44584-1	MW-525	105	103	93	100
410-44584-2	MW-526	106	105	99	98
410-44584-3	Trip Blank	107	104	93	99
LCS 410-144705/5	Lab Control Sample	104	102	99	101
MB 410-144705/9	Method Blank	106	104	94	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 (10-110)	MNPd10 (36-111)	FLN10 (47-128)
410-44584-1	MW-525	57	74	96
410-44584-2	MW-526	56	48	86
LCS 410-143125/2-A	Lab Control Sample	83	65	90
MB 410-143125/1-A	Method Blank	1 S1-	0.6 S1-	1 S1-

**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)
410-44584-1	MW-525	92
410-44584-2	MW-526	92
410-44584-3	Trip Blank	94
LCS 410-141273/5	Lab Control Sample	91
LCSD 410-141273/6	Lab Control Sample Dup	91
MB 410-141273/4	Method Blank	94

**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)
410-44584-1	MW-525	93
410-44584-2	MW-526	76

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## 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)	
LCS 410-142126/2-A	Lab Control Sample	101	
LCS 410-143250/2-A	Lab Control Sample	95	
LCS 410-142126/3-A	Lab Control Sample Dup	96	
LCS 410-143250/3-A	Lab Control Sample Dup	97	
MB 410-142126/1-A	Method Blank	100	
MB 410-143250/1-A	Method Blank	100	
<b>Surrogate Legend</b>			
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	OTP (50-150)	
410-44584-1	MW-525	64	
410-44584-1 DU	MW-525	67	
410-44584-2	MW-526	66	
LCS 410-141959/2-B	Lab Control Sample	56	
LCS 410-141959/3-B	Lab Control Sample Dup	61	
MB 410-141959/1-B	Method Blank	66	
<b>Surrogate Legend</b>			
OTP = o- terphenyl (Surr)			

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-144705/9

Matrix: Water

Analysis Batch: 144705

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	0.30	ug/L			07/02/21 12:04	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					07/02/21 12:04	1
Dibromofluoromethane (Surr)	104		80 - 120					07/02/21 12:04	1
4-Bromofluorobenzene (Surr)	94		80 - 120					07/02/21 12:04	1
Toluene-d8 (Surr)	99		80 - 120					07/02/21 12:04	1

Lab Sample ID: LCS 410-144705/5

Matrix: Water

Analysis Batch: 144705

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	18.4		ug/L		92	80 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		80 - 120				
Dibromofluoromethane (Surr)	102		80 - 120				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Toluene-d8 (Surr)	101		80 - 120				

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-143125/1-A

Matrix: Water

Analysis Batch: 143507

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 143125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.0116	J	0.050	0.010	ug/L		06/29/21 09:35	06/29/21 20:50	1
Benzo[a]pyrene	0.0117	J	0.050	0.010	ug/L		06/29/21 09:35	06/29/21 20:50	1
Benzo[b]fluoranthene	0.0133	J	0.050	0.010	ug/L		06/29/21 09:35	06/29/21 20:50	1
Benzo[k]fluoranthene	0.0140	J	0.050	0.010	ug/L		06/29/21 09:35	06/29/21 20:50	1
Chrysene	0.0177	J	0.050	0.010	ug/L		06/29/21 09:35	06/29/21 20:50	1
Dibenz(a,h)anthracene	ND		0.050	0.020	ug/L		06/29/21 09:35	06/29/21 20:50	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.020	ug/L		06/29/21 09:35	06/29/21 20:50	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Benzo(a)pyrene-d12 (Surr)	1	S1-	10 - 110				06/29/21 09:35	06/29/21 20:50	1
1-Methylnaphthalene-d10 (Surr)	0.6	S1-	36 - 111				06/29/21 09:35	06/29/21 20:50	1
Fluoranthene-d10 (Surr)	1	S1-	47 - 128				06/29/21 09:35	06/29/21 20:50	1

Lab Sample ID: LCS 410-143125/2-A

Matrix: Water

Analysis Batch: 143507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 143125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.00	0.895		ug/L		90	61 - 122
Benzo[a]pyrene	1.00	0.954		ug/L		95	60 - 120

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# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-143125/2-A

Matrix: Water

Analysis Batch: 143507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 143125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	1.00	0.962		ug/L		96	58 - 122
Benzo[k]fluoranthene	1.00	0.900		ug/L		90	57 - 128
Chrysene	1.00	0.878		ug/L		88	55 - 123
Dibenz(a,h)anthracene	1.00	0.939		ug/L		94	50 - 121
Indeno[1,2,3-cd]pyrene	1.00	1.03		ug/L		103	47 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Benzo(a)pyrene-d12 (Surr)	83		10 - 110
1-Methylnaphthalene-d10 (Surr)	65		36 - 111
Fluoranthene-d10 (Surr)	90		47 - 128

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-141273/4

Matrix: Water

Analysis Batch: 141273

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			06/24/21 12:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	94		50 - 150		06/24/21 12:25	1

Lab Sample ID: LCS 410-141273/5

Matrix: Water

Analysis Batch: 141273

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	1000		ug/L		91	64 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Lab Sample ID: LCSD 410-141273/6

Matrix: Water

Analysis Batch: 141273

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	1050		ug/L		95	64 - 131	5	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: RSK-175 - Dissolved Gases (GC)

**Lab Sample ID: MB 410-142126/1-A**  
**Matrix: Water**  
**Analysis Batch: 142116**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 142126**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		06/25/21 09:40	06/25/21 17:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	100		28 - 140				06/25/21 09:40	06/25/21 17:42	1

**Lab Sample ID: LCS 410-142126/2-A**  
**Matrix: Water**  
**Analysis Batch: 142116**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 142126**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Methane (1C)	59.4	56.2		ug/L		95	85 - 115	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
Propene (1C)	101		28 - 140					

**Lab Sample ID: LCSD 410-142126/3-A**  
**Matrix: Water**  
**Analysis Batch: 142116**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 142126**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)	59.4	55.4		ug/L		93	85 - 115	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Propene (1C)	96		28 - 140						

**Lab Sample ID: MB 410-143250/1-A**  
**Matrix: Water**  
**Analysis Batch: 143264**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 143250**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		06/29/21 09:25	06/29/21 09:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Propene (1C)	100		28 - 140				06/29/21 09:25	06/29/21 09:51	1

**Lab Sample ID: LCS 410-143250/2-A**  
**Matrix: Water**  
**Analysis Batch: 143264**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 143250**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Methane (1C)	59.4	55.9		ug/L		94	85 - 115	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
Propene (1C)	95		28 - 140					

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 410-143250/3-A  
Matrix: Water  
Analysis Batch: 143264

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 143250

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Methane (1C)	59.4	57.0		ug/L		96	85 - 115	2	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCSD Qualifier</b>	<b>Limits</b>						
Propene (1C)	97		28 - 140						

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH

Lab Sample ID: MB 410-141959/1-B  
Matrix: Water  
Analysis Batch: 142779

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 141959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/25/21 02:00	06/28/21 18:14	1
C24-C40	ND		250	100	ug/L		06/25/21 02:00	06/28/21 18:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
o-terphenyl (Surr)	66		50 - 150				06/25/21 02:00	06/28/21 18:14	1

Lab Sample ID: LCS 410-141959/2-B  
Matrix: Water  
Analysis Batch: 142779

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 141959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C12-C24	604	196		ug/L		32	10 - 115		
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
o-terphenyl (Surr)	56		50 - 150						

Lab Sample ID: LCSD 410-141959/3-B  
Matrix: Water  
Analysis Batch: 142779

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 141959

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
C12-C24	604	191		ug/L		32	10 - 115	3	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCSD Qualifier</b>	<b>Limits</b>						
o-terphenyl (Surr)	61		50 - 150						

Lab Sample ID: 410-44584-1 DU  
Matrix: Water  
Analysis Batch: 142779

Client Sample ID: MW-525  
Prep Type: Total/NA  
Prep Batch: 141959

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



# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH (Continued)

Lab Sample ID: 410-44584-1 DU  
Matrix: Water  
Analysis Batch: 142779

Client Sample ID: MW-525  
Prep Type: Total/NA  
Prep Batch: 141959

Surrogate	%Recovery	DU DU Qualifier	Limits
<i>o</i> -terphenyl (Surr)	67		50 - 150

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-141345/4  
Matrix: Water  
Analysis Batch: 141345

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			06/23/21 19:24	1

Lab Sample ID: LCS 410-141345/3  
Matrix: Water  
Analysis Batch: 141345

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS Result Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.801	mg/L		107	90 - 110

Lab Sample ID: 410-44584-2 MS  
Matrix: Water  
Analysis Batch: 141345

Client Sample ID: MW-526  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS Result Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	ND	F1	2.50	3.27 F1	mg/L		131	90 - 110

Lab Sample ID: 410-44584-2 DU  
Matrix: Water  
Analysis Batch: 141345

Client Sample ID: MW-526  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU DU Result Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Nitrate	ND	F1	ND	mg/L		NC	15

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-141346/4  
Matrix: Water  
Analysis Batch: 141346

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB MB Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND	1.0	0.30	mg/L			06/23/21 19:24	1

Lab Sample ID: LCS 410-141346/3  
Matrix: Water  
Analysis Batch: 141346

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS Result Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.81	mg/L		104	90 - 110

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 410-44584-2 MS  
Matrix: Water  
Analysis Batch: 141346

Client Sample ID: MW-526  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	12	F1	25.0	40.3	F1	mg/L		112	90 - 110

Lab Sample ID: 410-44584-2 DU  
Matrix: Water  
Analysis Batch: 141346

Client Sample ID: MW-526  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	12	F1	12.2		mg/L		0.06	15

## Method: 200.8 Rev 5.4 - Metals (ICP/MS)

Lab Sample ID: MB 410-142019/1-A  
Matrix: Water  
Analysis Batch: 142209

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 142019

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.0021	0.00065	mg/L		06/25/21 07:40	06/25/21 11:09	1

Lab Sample ID: LCS 410-142019/2-A  
Matrix: Water  
Analysis Batch: 142209

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 142019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.0200	0.0211		mg/L		105	85 - 115

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## GC/MS VOA

### Analysis Batch: 144705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	8260D	
410-44584-2	MW-526	Total/NA	Water	8260D	
410-44584-3	Trip Blank	Total/NA	Water	8260D	
MB 410-144705/9	Method Blank	Total/NA	Water	8260D	
LCS 410-144705/5	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 143125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	3510C	
410-44584-2	MW-526	Total/NA	Water	3510C	
MB 410-143125/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-143125/2-A	Lab Control Sample	Total/NA	Water	3510C	

### Analysis Batch: 143507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	8270D SIM	143125
410-44584-2	MW-526	Total/NA	Water	8270D SIM	143125
MB 410-143125/1-A	Method Blank	Total/NA	Water	8270D SIM	143125
LCS 410-143125/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	143125

## GC VOA

### Analysis Batch: 141273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	NWTPH-Gx	
410-44584-2	MW-526	Total/NA	Water	NWTPH-Gx	
410-44584-3	Trip Blank	Total/NA	Water	NWTPH-Gx	
MB 410-141273/4	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-141273/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-141273/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

### Analysis Batch: 142116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-2	MW-526	Total/NA	Water	RSK-175	142126
MB 410-142126/1-A	Method Blank	Total/NA	Water	RSK-175	142126
LCS 410-142126/2-A	Lab Control Sample	Total/NA	Water	RSK-175	142126
LCSD 410-142126/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	142126

### Prep Batch: 142126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-2	MW-526	Total/NA	Water	RSK-175	
MB 410-142126/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-142126/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-142126/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

### Prep Batch: 143250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	RSK-175	
MB 410-143250/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-143250/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Eurofins Lancaster Laboratories Env, LLC

# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

## GC VOA (Continued)

### Prep Batch: 143250 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-143250/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

### Analysis Batch: 143264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	RSK-175	143250
MB 410-143250/1-A	Method Blank	Total/NA	Water	RSK-175	143250
LCS 410-143250/2-A	Lab Control Sample	Total/NA	Water	RSK-175	143250
LCSD 410-143250/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	143250

## GC Semi VOA

### Prep Batch: 141959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	3510C	
410-44584-2	MW-526	Total/NA	Water	3510C	
MB 410-141959/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-141959/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-141959/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-44584-1 DU	MW-525	Total/NA	Water	3510C	

### Cleanup Batch: 142391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	3630C	141959
410-44584-2	MW-526	Total/NA	Water	3630C	141959
MB 410-141959/1-B	Method Blank	Total/NA	Water	3630C	141959
LCS 410-141959/2-B	Lab Control Sample	Total/NA	Water	3630C	141959
LCSD 410-141959/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	141959
410-44584-1 DU	MW-525	Total/NA	Water	3630C	141959

### Analysis Batch: 142779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	NWTPH-Dx	142391
410-44584-2	MW-526	Total/NA	Water	NWTPH-Dx	142391
MB 410-141959/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	142391
LCS 410-141959/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	142391
LCSD 410-141959/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	142391
410-44584-1 DU	MW-525	Total/NA	Water	NWTPH-Dx	142391

## HPLC/IC

### Analysis Batch: 141345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Total/NA	Water	EPA 300.0 R2.1	
410-44584-2	MW-526	Total/NA	Water	EPA 300.0 R2.1	
MB 410-141345/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-141345/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-44584-2 MS	MW-526	Total/NA	Water	EPA 300.0 R2.1	
410-44584-2 DU	MW-526	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 141346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	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: 410-44584-1

## HPLC/IC (Continued)

### Analysis Batch: 141346 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-2	MW-526	Total/NA	Water	EPA 300.0 R2.1	
MB 410-141346/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-141346/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
410-44584-2 MS	MW-526	Total/NA	Water	EPA 300.0 R2.1	
410-44584-2 DU	MW-526	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 142019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Dissolved	Water	Non-Digest Prep	
410-44584-2	MW-526	Dissolved	Water	Non-Digest Prep	
MB 410-142019/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-142019/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

### Analysis Batch: 142209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-44584-1	MW-525	Dissolved	Water	200.8 Rev 5.4	142019
410-44584-2	MW-526	Dissolved	Water	200.8 Rev 5.4	142019
MB 410-142019/1-A	Method Blank	Total/NA	Water	200.8 Rev 5.4	142019
LCS 410-142019/2-A	Lab Control Sample	Total/NA	Water	200.8 Rev 5.4	142019

## Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Edmonds Terminal

Job ID: 410-44584-1

**Client Sample ID: MW-525**

**Lab Sample ID: 410-44584-1**

**Date Collected: 06/22/21 14:04**

**Matrix: Water**

**Date Received: 06/23/21 10:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	144705	07/02/21 14:27	K4WN	ELLE
Total/NA	Prep	3510C			143125	06/29/21 09:35	A2VL	ELLE
Total/NA	Analysis	8270D SIM		1	143507	06/29/21 21:20	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	141273	06/24/21 19:28	JJT8	ELLE
Total/NA	Prep	RSK-175			143250	06/29/21 09:25	YUE6	ELLE
Total/NA	Analysis	RSK-175		10	143264	06/29/21 15:33	YUE6	ELLE
Total/NA	Prep	3510C			141959	06/25/21 02:00	UKQ8	ELLE
Total/NA	Cleanup	3630C			142391	06/25/21 23:59	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	142779	06/28/21 19:21	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	141345	06/23/21 20:20	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	141346	06/23/21 20:20	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			142019	06/25/21 07:40	WBK6	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	142209	06/25/21 11:29	S8DY	ELLE

**Client Sample ID: MW-526**

**Lab Sample ID: 410-44584-2**

**Date Collected: 06/22/21 12:04**

**Matrix: Water**

**Date Received: 06/23/21 10:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	144705	07/02/21 14:49	K4WN	ELLE
Total/NA	Prep	3510C			143125	06/29/21 09:35	A2VL	ELLE
Total/NA	Analysis	8270D SIM		1	143507	06/29/21 21:51	X3ZL	ELLE
Total/NA	Analysis	NWTPH-Gx		1	141273	06/24/21 19:51	JJT8	ELLE
Total/NA	Prep	RSK-175			142126	06/25/21 09:40	LXF2	ELLE
Total/NA	Analysis	RSK-175		1	142116	06/28/21 06:01	LXF2	ELLE
Total/NA	Prep	3510C			141959	06/25/21 02:00	UKQ8	ELLE
Total/NA	Cleanup	3630C			142391	06/25/21 23:59	UKQ8	ELLE
Total/NA	Analysis	NWTPH-Dx		1	142779	06/28/21 20:07	IUSB	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	141345	06/23/21 20:42	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	141346	06/23/21 20:42	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			142019	06/25/21 07:40	WBK6	ELLE
Dissolved	Analysis	200.8 Rev 5.4		1	142209	06/25/21 12:14	S8DY	ELLE

**Client Sample ID: Trip Blank**

**Lab Sample ID: 410-44584-3**

**Date Collected: 06/22/21 00:00**

**Matrix: Water**

**Date Received: 06/23/21 10:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	144705	07/02/21 13:21	K4WN	ELLE
Total/NA	Analysis	NWTPH-Gx		1	141273	06/24/21 14:00	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: 410-44584-1

## 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	04-12-22

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: 410-44584-1

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: 410-44584-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-44584-1	MW-525	Water	06/22/21 14:04	06/23/21 10:50	
410-44584-2	MW-526	Water	06/22/21 12:04	06/23/21 10:50	
410-44584-3	Trip Blank	Water	06/22/21 00:00	06/23/21 10:50	

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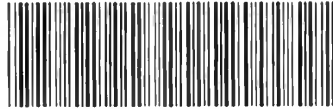
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Lancaster Laboratories

Acct. # \_\_\_\_\_ 410-44584 Chain of Custody

Series use only  
Sample # \_\_\_\_\_  
and with circled numbers.

Nitrates  
8260 D  
SIM CPALLS  
Method  
175  
ORIGFM - 18D Sulfa / Nitrates  
Dissolved Manganese

1 Client Information				4 Matrix				5 Analyses Requested												6 Remarks																																																																																																																		
Facility # _____ WBS Edmonds Terminal Site Address 11270 Unoco Road, Edmonds, WA Chevron PM Kim Solitz Lead Consultant Arcadis Consultant/Office Arcadis, 1100 Olive way, Seattle, WA Consultant Project Mgr. Ophélie Encelle Consultant Phone # Ophélie.Encelle@Arcadis.com Sampler TB, JS, DG, MA				Sediment <input type="checkbox"/> <input checked="" type="checkbox"/> Ground <input type="checkbox"/> <input type="checkbox"/> Surface Potable <input type="checkbox"/> NPDES <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 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 <input type="checkbox"/> WAVPH <input type="checkbox"/> WAEPH <input type="checkbox"/> Benzene 8260 D 8270 D SIM CPALLS RSK - 175 Method 300-ORIGFM - 18D Sulfa / Nitrates 200-3 Dissolved Manganese				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 <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample</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 Number of Containers</th> <th rowspan="2">BTEX + MTBE</th> <th rowspan="2">8260</th> <th rowspan="2">8260 full scan</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">WAVPH</th> <th rowspan="2">WAEPH</th> <th rowspan="2">Benzene</th> <th rowspan="2">8260 D</th> <th rowspan="2">8270 D SIM CPALLS</th> <th rowspan="2">RSK - 175 Method</th> <th rowspan="2">300-ORIGFM - 18D Sulfa / Nitrates</th> <th rowspan="2">200-3 Dissolved Manganese</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>MV-525</td> <td>6/22/21</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</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> </tr> <tr> <td>MW-526</td> <td>6/22/21</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td>14</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> </tr> <tr> <td>Trip Blank</td> <td>-</td> <td>-</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>2</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> </tr> </tbody> </table>		Sample	Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8260	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Lead	Total	Diss.	Method	WAVPH	WAEPH	Benzene	8260 D	8270 D SIM CPALLS	RSK - 175 Method	300-ORIGFM - 18D Sulfa / Nitrates	200-3 Dissolved Manganese	Date	Time	MV-525	6/22/21		X			X		14					X	X							X	X	X	X	X	X	X	MW-526	6/22/21		X			X		14					X	X							X	X	X	X	X	X	X	Trip Blank	-	-	X					2					X	X							X	X	X	X	X	X	X
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7 Turnaround Time Requested (TAT) (please circle) Standard 5 day 4 day 72 hour 48 hour 24 hour				Relinquished by _____ Date _____ Time _____ Relinquished by _____ Date _____ Time _____				Received by _____ Date _____ Time _____ Received by _____ Date _____ Time _____												9 Date _____ Time _____																																																																																																																		
8 Data Package Options (please circle if required) Type I - Full Type VI (Raw Data)				Relinquished by Commerical Carrier: UPS _____ FedEx <input checked="" type="checkbox"/> Other _____ Temperature Upon Receipt 1.7 °C				Received by <u>mr</u> Custody Seals Intact? Yes No												Date 6/23/21 Time 1050																																																																																																																		

## Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 410-44584-1

**Login Number: 44584**

**List Source: Eurofins Lancaster Laboratories Env, LLC**

**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.	False	No sample date and/or time on COC, logged in per container labels.
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	

