AECOM
1111 3rd Avenue, Suite 1600
Seattle, WA 98110
aecom.com

April 22, 2024

AECOM No. 60701804

Thomas Praisewater
Cleanup Project Manager
Toxics Cleanup Program
PO Box 47775
Olympia, Washington 98504-7775

Subject: Updated Draft Remedial Investigation and Data Gap Report
Chevron Bulk Plant 1001348, Facility/Site ID 1234, Cleanup Site ID 3762
1656 East J St., Tacoma, Pierce County, WA 98421

Dear Mr. Praisewater:

Please find enclosed, the *Updated Draft Remedial Investigation and Data Gap Report* (Report) which has been prepared by AECOM Technical Services, Inc (AECOM) on behalf of Chevron Environmental Management Company (CEMC) for the Former Chevron Bulk Terminal in Tacoma, Washington.

Please reach out to Brad Wynne at 214-971-1829 or via email below, if you have any additional questions, comments, or concerns.

Sincerely,

Brad Wynne, PMP
Project Manager
bradley.wynne@aecom.com

Brian Webb, RG, LG
Project Geologist
brian.webb@aecom.com

cc via email: James Kiernan – CEMC
Marian Abbett – Ecology

AECOM

Updated Draft Remedial Investigation and Data Gap Report

Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington
Facility/Site ID 1234, Cleanup Site ID 3762

Chevron Environmental Management Company (CEMC)

April 22, 2024

Delivering a better world

Updated Draft Remedial Investigation and Data Gap Report

Site Name:	Former Chevron Bulk Terminal, Facility No. 1001348
Site Owner:	GEO Group through the Correctional Services Corporation

Site Location Information:

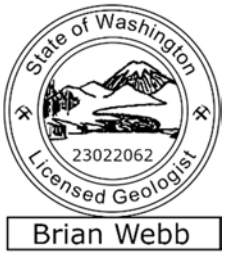
Site Address:	1656 East J Street, Tacoma, Washington, 98421
Latitude and Longitude:	47°14’56.90” N, 122°25’24.87W
Township and Range:	S4, T20N, R03E

Identification (ID) Numbers:

Ecology Cleanup Site ID:	3762
Facility Site ID:	1234

Quality information

Prepared by	Checked by	Checked by	Approved by
Tess Lydick, Geologist III	Brian Webb, RG, LG Project Geologist	David Raubvogel, LHG, LG Senior Geologist	Brad Wynne, PMP Project Manager



Revision History

Revision	Revision date	Details	Authorized	Name	Position

Distribution List

# Hard Copies	PDF Required	Association / Company Name
-	1	Chevron
1	1	State of Washington Department of Ecology

Prepared for:

Chevron Environmental Management Company

Prepared by:

AECOM
aecom.com

Copyright © 2024 by AECOM

All rights reserved. No part of this copyrighted work may be reproduced, distributed, or transmitted in any form or by any means without the prior written permission of AECOM.

Table of Contents

1. Introduction 1
1.1 Report Organization 1
2. Site Background 1
2.1.1 Site Location and Description 1
2.1.2 Ownership History 2
2.1.3 Previous Environmental Investigations From 1984 Through 2010 3
2.1.4 Previous Remedial Actions From 1989 through 2001 4
3. Remedial Investigations From 2010 through 2021 4
3.1 Methodology 5
3.1.1 Soil Investigations 5
3.1.2 Groundwater Monitoring Well Installation and Sampling 6
3.1.3 AECOM 2023 Groundwater Monitoring and Well Resurveying 7
4. Subsurface Conditions 8
4.1 Geology 8
4.2 Hydrogeology 8
4.3 SPH Occurrence 8
5. Analytical Results and Conceptual Site Model 9
5.1 Soil 9
5.2 Groundwater 9
5.3 Conceptual Site Model (CSM) 10
5.3.1 Source Characterization and Constituents of Concern 10
5.3.2 Contaminant Fate and Transport Mechanisms 11
5.3.3 Exposure Pathways and Potential Receptors 11
5.3.4 Terrestrial Ecological Evaluation (TEE) 12
5.4 Proposed Cleanup Standards 13
5.4.1 Applicable or Relevant and Appropriate Requirements (ARARs) 14
5.4.2 Soil CULs 14
5.4.3 Groundwater CULs 15
5.4.4 Cleanup Standards for Other Media (Indoor/Ambient Air, Soil Gas, Sub-Slab Soil Gas) 16
5.4.5 Points of Compliance (POC) 16
5.5 Data Gaps 16
5.5.1 Groundwater 16
5.5.2 Soil 17
5.5.3 Soil Gas/Air 17
5.5.4 Tidal Influence Study 17
6. Conclusions and Recommendations 17
7. References 20

Figures

Figure 1	Site Location Map
Figure 2A	Site Vicinity Map
Figure 2B	Site Plan
Figure 3A	Previous Soil Sample/Boring and Monitoring Well Locations (1984-2001) – Hydrocarbon Distribution in Soil
Figure 3B	2010 - 2021 Soil Sample/Boring Locations and TPH Distribution
Figure 3C	2010 - 2021 Soil Sample/Boring Locations and Benzene Distribution
Figure 4	Geologic Cross Sections
Figure 5A	Groundwater Elevation Contours – Perched GWBU – August 7, 2023
Figure 5B	Groundwater Elevation Contours – Perched GWBU – Fourth Quarter, November 13, 2023
Figure 5C	High-Tide Groundwater Elevation Contours – Sand Aquifer – October 16, 2023
Figure 5D	Low-Tide Groundwater Elevation Contours – Sand Aquifer – October 16, 2023
Figure 5E	Groundwater Elevation Contours – Sand Aquifer – Fourth Quarter, November 13, 2023 (Low-Tide Event)
Figure 6A	2023 Groundwater Analytical Data - Perched Groundwater Bearing Unit
Figure 6B	2023 Groundwater Analytical Data – Sand Aquifer
Figure 7	Leidos July 2020 RI Work Plan Uncompleted Proposed Additional Monitoring Well and Soil Boring Locations
Figure 8	AECOM 2024 Revised Proposed Additional Monitoring Well and Soil Boring Locations

Tables

Table 1	Groundwater Monitoring Program
Table 2	Fourth Quarter and Cumulative 2023 Gauging and Groundwater Analytical Data
Table 3	October 2023 High and Low Tide Groundwater Elevations
Table 4	Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Appendices

Appendix A	Previous Analytical Results
Appendix B	Previous Figures
Appendix C	Soil Boring and Monitoring Well Construction Logs
Appendix D	Laboratory Reports
Appendix E	Quality Assurance Project Plan and Sampling and Analysis Plan
Appendix F	2023 Data Validation Reports
Appendix G	Conceptual Site Models
Appendix H	Groundwater Trend Graphs
Appendix I	2023 Terrestrial Ecological Evaluation Form
Appendix J	Previous Cleanup Level Calculations

Acronyms

AECOM	AECOM Technical Services, Inc.
AO	Agreed Order
AST	above-ground storage tank
bgs	below ground surface
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, xylenes
CEMC	Chevron Environmental Management Company
COC	constituent of concern
cm/sec	centimeters per second
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSM	conceptual site model
CULs	cleanup levels
Draft RI	Draft Remedial Investigation (Report submitted by Leidos Engineering, LLC in 2014)
DRO	Diesel Range Organics
Ecology	State of Washington Department of Ecology
EDB	ethylene dibromide
EDC	ethylene dichloride
ELLE	Eurofins Lancaster Laboratory Environmental
EPH	extractable petroleum hydrocarbon
FS	feasibility study
GRO	Gasoline Range Organics
GWBU	groundwater-bearing unit
HRO	Heavy Oil Range Organics
Leidos	Leidos Engineering, LLC
MTBE	methyl tertiary-butyl ether
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
No.	Number
PAH	polycyclic aromatic hydrocarbon
PID	photoionization detector
POC	point of compliance
PQL	practical quantitation limit
Property	Former Chevron Bulk Terminal (1656 E. J St., Tacoma, WA)
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
Report	Updated Draft Remedial Investigation and Data Gap Report
RI	Remedial Investigation
SAIC	Science Application International Corporation
SAP	Sampling and Analysis Plan

SIM	selective-ion monitoring
SPH	separate-phase hydrocarbon
TEE	terrestrial ecological evaluation
TPH	Total Petroleum Hydrocarbons
TPH-d	Total Petroleum Hydrocarbons – diesel-range
TPH-g	Total Petroleum Hydrocarbons – gasoline-range
TPH-o	Total Petroleum Hydrocarbons – oil-range
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VI	vapor intrusion
VPH	volatile petroleum hydrocarbon
WAC	Washington Administrative Code

1. Introduction

AECOM Technical Services, Inc (AECOM) has prepared this *Updated Draft Remedial Investigation* (RI) *and Data Gap Report* (Report) on behalf of Chevron Environmental Management Company (CEMC) for the Former Chevron Bulk Terminal (Property) number (No.) 1001348 located in Tacoma, Washington (**Figure 1**). This Report was prepared as a follow-up to the *Draft Remedial Investigation* (Draft RI) submitted by Leidos Engineering, LLC (Leidos) in December 2014 (Leidos 2014). Current and previous activities conducted for the RI are completed under Agreed Order (AO) No. DE7111 between the State of Washington Department of Ecology (Ecology) and Chevron U.S.A, Inc. in accordance with requirements set forth in Washington Administrative Code (WAC) 173-340-350, to investigate soil and groundwater conditions affected by previous Property activities. The 'Site' includes both the Property and areas off-Property which have been impacted.

This Report fulfills the submittal requirements described in WAC 173-340-350(4) for documentation of an RI conducted under the Model Toxics Control Act (MTCA) and is meant to characterize the nature and extent of petroleum hydrocarbon contamination in soil and groundwater based on current and historical data, identify soil and groundwater data gaps required for development of a *Final RI* and Feasibility Study (FS), and identify Site-specific risk-based cleanup levels (CULs).

1.1 Report Organization

This document is organized as follows:

- **Section 1 – Introduction.** Brief introduction to the Site and this Report.
- **Section 2 – Site Background.** Defines the Site and previously completed investigations and remedial actions.
- **Section 3 – Remedial Investigation Activities – 2010 through 2021**. Summary of all field activities completed as part of the RI.
- **Section 4 – Subsurface Conditions.** Discussion of the Site hydrogeology and geology.
- **Section 5 – Analytical Results and Conceptual Site Model.** Presents previous (Appendix A) and current soil and groundwater analytical results and applicable CULs along with the conceptual site model (CSM), review of proposed CULs and data gap analysis.
- **Section 6 – Conclusions and Recommendations.**
- **Section 7 – References.** Presents a list of references used in this Report.

2. Site Background

2.1.1 Site Location and Description

The Property is located in an industrial area at 1656 East J Steet in Tacoma, Washington (**Figure 1**), approximately 2,200 feet east of the Thea Foss Waterway and approximately 2,000 feet west of the Puyallup River, near the Commencement Bay Nearshore/Tide flats Superfund Site and approximately 1,500 feet northwest of a former coal gasification plant within the Tacoma Tar Pits study area (**Figure 1**) that operated from 1934 until 1956 (GeoEngineers, 1989; SAIC, 2010). The Property is bounded to the north by East F Street, to the east by East J Street, to the south by a Burlington Northern Santa Fe (BNSF) rail siding and undeveloped property, and to the west by a rail siding on the Steeler Inc. property (**Figure 2**A). The Property is in Township 20N, Range 3 East, Section 4 SE.

The 3.5-acre parcel (Parcel Number 03200440002) is presently developed with a 2,100 square foot office building, a Quonset hut structure, and paved parking in the eastern half of the Property. The western half of the Property is vacant and unpaved (**Figure 2B**). Many of the former bulk fuel terminal building foundation features (e.g., concrete slabs and footings) are still evident on surface grade across the Property (**Figure**

2B). A mobile trailer office and several shipping containers are also present on the Property. The Property is presently a vehicle and bus parking facility operated by Northwest Detention Center. The Property is relatively flat and ranges in elevation from approximately 13 to 15 feet, North American Vertical Datum of 1988 (NAVD88). A drainage pond (stormwater detention) is located adjacent to the southern property boundary. This stormwater feature is approximately 3 feet deep and has a drainage outlet on the eastern end of the pond which discharges to the storm sewer.

The former bulk fuel terminal operated from 1905 until 1988 and the Site boundary is defined in the AO as the extent of contamination caused by the release of hazardous substances at the former bulk fuel terminal (SAIC, 2010; Ecology, 2009). WAC 173-340-200 defines a Site as any area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, placed, or otherwise come to be located. Therefore, the Site includes the former facility or property boundary and areas where impacts in soil and/or groundwater extent beyond the boundaries of the former facility.

RI activities have taken place on several adjacent parcels, including the Northwest Detention Center (owned by Correctional Services Corporation) to the east, Richlite (owned by Rainier Plywood) to the north, Steeler Drywall Supply (owned by Steeler, Inc.) and Port of Tacoma properties to the west (related to the former pipeline infrastructure) and a railroad switchyard owned by BNSF to the south (**Figure 2A**). These adjacent properties are zoned for industrial use (PublicGIS, 2023).

2.1.2 Ownership History

The Property and surrounding area were part of a tidal marsh at the mouth of the Puyallup River that was filled with sediment dredged from the river in the early 1900s (SAIC, 2010). A brief history of Property ownership is summarized below (Leidos, 2014):

- 1905: Standard Oil Company of California, who became Chevron U.S.A. Inc. in 1984, purchased the dredge-filled property and used it as a fuel storage and distribution facility until 1988.
- 1989 and 1990: All structures and underground pipelines on the Property associated with the former bulk terminal were decommissioned and reportedly removed.
- 1999: The Property was sold to Bowman Propane and, as condition of sale, a gravel cover was placed over the Property and a Warranty Deed was signed. The Warranty Deed included restricting the purchaser (Grantee including all future purchasers) from using the Property for residential purposes and restricting use of groundwater/surface water for consumption.
- 2004: The Property was acquired by Reinhard Petroleum who conducted business as Cornerstone Property Investments and leased the Property to Bowman Oil and Propane for staging of petroleum transport trucks. The property was later leased to a variety of occupants including Griffin-Galbraith Fuel Company, Lubking Petroleum, Mathews Heating Oil and Bowman Propane, until 2010.
- 2009: GEO Group purchased the Property in partnership with the Correctional Services Corporation.
- 2010 to present – Northwest Detention Center (Correctional Services Corporation) operates a bus and vehicle parking facility that is owned by Correctional Services Corporation of Boca Raton, Florida.

The former fuel storage and distribution facility had 13 above-ground storage tanks (ASTs), four underground storage tanks (USTs), two tanker truck-loading racks, two office buildings, several garages, a boiler house, and a barrel platform which operated from 1905 until 1988 (**Figure 2B**). The ASTs and USTs stored various products over the years including gasoline, diesel, light and industrial fuel oil, aviation gasoline, stove and furnace oil, and additives with tank capacity ranging from 10,000 to 1.6 million gallons. Lubrication oil was stored in barrels that were placed on platforms and fuel oil was transported by a pipeline from the Property to the pier area for loading onto ships (**Figure 2A**). All structures, docks, and some underground piping associated with the Property were decommissioned and reportedly removed by 1990

(SAIC, 2006). The four bulk petroleum supply lines in the northern area of the Property were removed and/or flushed, cleaned, and abandoned in place in 1989 (Hart Crowser, 1989).

2.1.3 Previous Environmental Investigations From 1984 Through 2010

Several environmental investigations performed between 1984 and 2010 identified the presence of Total Petroleum Hydrocarbons (TPH) in the gasoline range (TPH-g), diesel range (TPH-d), and oil range (TPH-o) in soil and groundwater at the Site (SAIC, 2010). Previous analytical results are presented in **Appendix A,** previous soil boring and groundwater monitoring well locations are presented in **Appendix B.** All of the previous site investigation locations are presented on **Figure 3A** and the previous investigation activities are summarized below:

- 1984: Ten (10) monitoring wells (C-1 through C-10) were installed, and separate-phase hydrocarbon (SPH) was detected in three wells, C-1, C-8, and C-10; trace oil film in C-1 and C-8 and 0.06' in C-10 (**Appendix B**) (Leidos, 2014; SAIC, 2006). Hydrocarbon odors were detected in all 10 wells; however, no soil samples were submitted for laboratory analysis (SAIC, 2006).
- 1989: Twelve (12) monitoring wells (MW-1 through MW-12) and eight soil borings (HB-1 through HB-8) were installed in response to a report of petroleum product entering a sanitary sewer on J Street (GeoEngineers, 1989; SAIC, 2006). Five additional monitoring wells (MW-13 through MW-17) were installed to monitor the shallow perched groundwater-bearing unit (GWBU) (also known as the "upper aquifer", "fill aquifer", and/or "shallow aquifer"), and 49 test pits (TP-1 through TP-49) were excavated to depths between approximately 5 and 10 feet below ground surface (bgs) (SAIC, 2006).
  - Soil samples from 20 locations detected constituents of concern (COCs) at concentrations above MTCA Method A CULs (SAIC, 2006).
  - TPH concentrations exceeded MTCA Method A CULs in 47 of the 49 test pits (Cambria, 1997; SAIC, 2006).
- 1990: Five monitoring wells (D-1 through D-5) were installed to monitor the sand aquifer (also known as the "lower aquifer" and/or "deep aquifer"), and 14 soil borings (HH-1 through HH-14) and 34 test pits (TP-50 through TP-83) were completed along the western and southern property boundary (GeoEngineers, 1989; SAIC, 2006).
  - SPH was detected in monitoring wells: MW-1, MW-2, and MW-4 (0.1 ft, 2.28 ft and 4.40 ft respectively) (Cambria, 1997).
  - Most soil samples analyzed had at least one detection of TPH except for samples from soil boring HH-14 and test pit TP-73 (SAIC, 2006).
- 1992: Five soil borings (B-1 through B-3, D-2A, and D-5A) were completed between 11.5 and 21.5 feet bgs and 20 test pits (TP-1 through TP-20) were excavated between 3.5 and 8.5 feet bgs (SAIC, 2006). Two soil boring locations (D-2A and D-5A) were completed as monitoring wells to replace previously abandoned wells (also referred to as D-2A and D-5A).
  - Polycyclic aromatic hydrocarbon (PAH) constituents were detected in soil above MTCA Method A CULs in two test pits (**Appendix A**) (Ecology, 2009).
  - Lead was above the MTCA Method A CULs in one soil sample at TP-20 (4 feet bgs) (GeoEngineers, 1993; SAIC, 2006).
  - PAH constituents were detected above MTCA Method A CULs in a groundwater sample from MW-17 (SAIC, 2006). TPH-g and/or TPH-d were detected above MTCA Method A CULs in groundwater samples from MW-8, MW-13, MW-14, MW-15, MW-17, D-1, and D-3 (GeoEngineers, 1993; SAIC, 2006).
- 1995: Five piezometers (P-1 through P-5) were installed in the northeast corner of the Property where petroleum was previously detected in groundwater. SPH was detected in P-2 and P-3 with measured thicknesses of 0.12 ft and 0.21 ft respectively. SPH was not detected in these wells during subsequent investigations (GeoEngineers, 1995).

– A test pit (TP-1-1) was excavated near the sanitary sewer line at the intersection of F and J Streets (**Appendix B**) to assess subsurface conditions and petroleum hydrocarbons were not detected in the soil (GeoEngineers, 1995; SAIC, 2006).

2.1.4 Previous Remedial Actions From 1989 through 2001

Previous remedial actions completed at the Site are summarized as follows:

- 1989: Approximately 2.65 feet of SPH was measured and an estimated 2.5 gallons was bailed from well MW-4 (SAIC, 2006). Additionally, an unknown quantity of SPH was bailed from previously installed well C-8 (Chevron Marketing Department, 1984; Gettler-Ryan, 2006; SAIC, 2006). Four petroleum supply lines under East 15th Street, which extended from the dock on the east shore of the Thea-Foss Waterway to the Site, were removed in May 1989 (SAIC, 2006). No evidence of substantial petroleum hydrocarbon contamination was observed in the excavated pipeline trench (Hart Crowser, 1989; SAIC, 2006).
- 1990s: Approximately 500 poplar trees were planted along the property boundary in the early 1990s to assess the ability for phytoremediation to minimize off-Site groundwater migrations and accelerate hydrocarbon biodegradation, however, these trees have since been removed from the Site (Cambria, 1997; SAIC, 2006). Biodegradation results and rationale for the removal of the poplar trees has not been located.
- 2001: Approximately 58 tons of petroleum-impacted soil was excavated from near the electrical and sewer lines at the intersection of F and J Streets and was disposed of at TPS Technologies in Lakewood, Washington (Delta, 2001; SAIC, 2006). Three stockpile soil samples were analyzed, and one sample had TPH-d concentrations above the MTCA Method A CUL.

Two pilot studies have been conducted at the Site which included usage of thermal oxidation and bioremediation technologies to reduce petroleum hydrocarbon contamination in soil, however, neither technology proved successful at completely remediating soil contamination (Cambria, 1997; SAIC, 2006). Documentation detailing methods, technologies, and results of either pilot study has not been located.

3. Remedial Investigations From 2010 through 2021

RI activities at the Site are being conducted under the AO (No. DE 7111) with Ecology dated March 1, 2010 (Ecology, 2010) to determine the nature and extent of hazardous substances in soil and groundwater, characterize potential risk to human health and terrestrial organisms, and develop the necessary data to prepare a FS and a draft cleanup action plan (dCAP) for the Site. RI field activities began following Ecology's approval of the RI Work Plan (June, 2010) and included advancing 74 soil borings and installation of seven monitoring wells by SAIC between 2010 and 2014 (Leidos, 2014) as summarized below:

- July 2010: Drilling of 17 soil borings (SB-1 through SB-17) and seven additional borings for installation of monitoring wells (D-6, D-7, and MW-18 through MW-22) and surveying of newly installed wells.
- October 2010: Drilling of 18 soil borings (SB-19 through SB-26 and SB-28 through SB-37).
- June 2012: Drilling of eight soil borings (SB-38 through SB-45) on two parcels owned by the Port of Tacoma along historical pipelines on the north and south side of each parcel.
- July 2013: Drilling of 14 soil borings (SB-46 through SB-60).
- July 2014: Drilling of 10 soil borings (SB-61 through SB-71) on the south side of the Steeler, Inc. property along historical (1921) pipeline and sampling of existing groundwater monitoring well RMW-1.

Additional soil and groundwater investigation was requested by Ecology to accomplish the 2010 RI Work Plan objectives. Multiple supplemental/addendums to the RI Work Plan were submitted to Ecology, which included additional borings, monitoring wells and completion of a tidal study (Leidos, 2017, 2018, 2020) as summarized below:

- 2016: A tidal study was performed to identify the relationship of the Site groundwater gradient and seawater intrusion associated with the tidal cycle in Commencement Bay. Water level measurements were collected in wells D-1, D-2A, D-3, D-6, D-7, MW-10, MW-14, MW-18, MW-19, MW-21, and MW-22 once per hour from September 1 through 29, 2016, with pressure transducers and electronic data loggers.
- 2017: Drilling of seven soil borings (SB-72 through SB-78) and two borings completed as monitoring wells (D-13 and D-14). D-14 was installed as a deep well to evaluate the vertical extent of the dissolved-phase impacts to groundwater and screened below 25 ft bgs.
- 2019: Drilling of eight soil borings (OB-1 through OB-8) and 16 additional borings for installation of monitoring wells (D-8, D-9, D-10, D-12, D-15, D-17, D-18, D-19, MW-23 through MW-26, MW-29 through MW-32).
- 2021: Drilling of eight soil borings (OB-18 through OB-25) and 11 additional borings for installation of monitoring wells (D-3A, D-13, D-22, D-24, D-25, D-26, D-27, MW-34, and MW-36 through MW-39). D-3 was also plugged and abandoned and replaced with D-3A as it appeared that D-3 was installed across both GWBUs.

Previous soil (2010-2021) and groundwater (1992 to 2022) analytical results are provided in **Appendix A.** The prior investigation boring, test pit and monitoring well locations are shown on **Figure 3A** and on a previous figure provided in **Appendix B**. Existing groundwater monitoring well locations and soil boring locations from 2010 to 2021 are shown on **Figures 3B** and **3C** and in **Appendix B.** Available soil boring and well logs are provided in **Appendix C**, and available previous laboratory reports are provided in **Appendix D**.

3.1 Methodology

The field activities performed by SAIC and Leidos between 2010 and 2021 were conducted in accordance with the RI Work Plan, *Quality Assurance Project Plan* (QAPP), and *Sampling and Analysis Plan* (SAP) (**Appendix E**), multiple RI Work Plan addendums, and the *Supplemental Remedial Investigation Work Plan* (SAIC, 2010, 2013; Leidos, 2015, 2016, 2018, 2020). These work plans specified sample collection methods, sample locations, analytical methods, reporting limits, quality assurance measures to be implemented, as well as other pertinent sampling procedures. The RI related field activities completed by SAIC (from 2010 through 2013) and Leidos (from 2014 through 2021) are summarized in the following sections.

3.1.1 Soil Investigations

3.1.1.1 SAIC Soil Borings and Sampling

On-Property soil borings were advanced using a combination of air knife and hand auger for the first 8 feet bgs, and either hollow-stem auger drilling methods or Geoprobe® direct push methods to the total depth of the boring (Leidos, 2014). Off-Property soil borings were advanced using a hand auger or air knife to between 5 to 6.5 feet bgs to assess if petroleum contamination was present on the north and south side of parcels owned by the Port of Tacoma and Steeler, Inc. in the vicinity of historical petroleum pipelines west of the Property, (Leidos, 2014). Borings were advanced until field screening evidence of petroleum hydrocarbon-impacts in soil was no longer apparent, or refusal conditions were met. The soil conditions and field screening findings (e.g., odor, sheen, and photoionization detector (PID) readings) were recorded on boring logs that are presented in **Appendix C**.

At least one soil sample was collected from each boring based on field screening observations and submitted for laboratory analysis (Leidos, 2014). Additional soil samples were collected in borings where petroleum impacts were noted at different depth intervals, or the vertical extent of impacts warranted additional characterization (Leidos, 2014). The samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC (ELLE [formerly Lancaster Laboratories]) of Lancaster, Pennsylvania under proper chain of custody protocols.

On-Property and off-Property soil samples were analyzed for:

- TPH-g by Ecology Method NWTPH-Gx,
- TPH-d and TPH-o by Ecology Method NWTPH-Dx with silica gel cleanup, and
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260B.

Selected on-Property soil samples were also analyzed for:

- n-hexane and naphthalene by USEPA Method 8260B,
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by USEPA Method 8270 using selective-ion monitoring (SIM),
- Volatile petroleum hydrocarbons (VPH) by Ecology Method WA-VPH,
- Extractable petroleum hydrocarbons (EPH) by Ecology Method WA-EPH,
- Lead by USEPA Method 6020, and
- Ethylene dibromide (EDB) and ethylene dichloride (EDC) by USEPA Method 8260B.

Based on the results from soil samples collected during RI soil sampling, the COCs included: TPH-g, TPH-d, TPH-o, and benzene (Leidos, 2014). The prior soil analytical results are summarized in **Appendix A** and available analytical reports not previously submitted are presented in **Appendix D**. The soil boring locations are shown on **Figures 3A** and **3B**.

3.1.1.2 Leidos Soil Borings and Sampling

The borings were advanced to at least 8 feet bgs by air knifing with a vacuum truck or using a stainless-steel hand auger (Leidos, 2017). The borings were then advanced to the total depth of the boring using Geoprobe direct push drilling methods (Leidos, 2017).

The soil conditions were noted, and soil samples were collected for field-screening and laboratory analysis (Leidos, 2017). The field screening findings (e.g., PID and sheen testing) were recorded on boring logs, copies of which are presented in **Appendix C**.

A minimum of two soil samples were collected from each boring for laboratory analysis: one from the capillary fringe, and the second from the bottom of the boring to assess the vertical extent of petroleum-hydrocarbon impacts (Leidos, 2017).

Select soil samples were submitted to ELLE for the following analyses:

- TPH-g by Ecology Method NWTPH-Gx,
- TPH-d and TPH-o by Ecology Method NWTPH-Dx with silica gel cleanup,
- BTEX by USEPA Method 8260,
- cPAHs by USEPA 8270, and
- Moisture by SM 2540 G-1997.

These analytical results are summarized in **Appendix A** and the available analytical reports are presented in **Appendix D** if not previously submitted. The soil boring locations are shown on **Figure 3B**.

3.1.2 Groundwater Monitoring Well Installation and Sampling

3.1.2.1 SAIC Well Installation and Sampling

Groundwater monitoring wells were installed using hollow stem auger drilling methods. The monitoring wells were installed within the shallow perched GWBU (MW-18 through MW-22) and the deeper sand aquifer (D-6 and D-7). The perched GWBU wells were completed to a total depth of 9.5 feet bgs and screened from 3 to 9 feet bgs, except for MW-22 which was completed to 8.5 feet bgs and screened from 3 to 8 feet bgs. Sand aquifer groundwater monitoring wells (D-6 and D-7) were completed to 20.5 feet bgs and screened from 15 to 20 feet bgs (Leidos, 2014). The available monitoring well boring logs and construction details are presented in **Appendix C**.

Groundwater levels were measured, and samples collected from the Site monitoring well network between 2010 through 2013 as part of the RI.

Groundwater samples were collected using low-flow purging and sampling techniques in accordance with the SAP. The groundwater samples were analyzed by ELLE under proper chain of custody protocols for the following analytes (Leidos, 2014):

- TPH-g by Ecology Method NWTPH-Gx,
- TPH-d and TPH-o by Ecology Method NWTPH-Dx,
- BTEX, methyl tertiary-butyl ether (MTBE), EDB/EDC, naphthalene, and n-hexane by USEPA Method 8260B,
- Dissolved lead by USEPA Method 6020, and
- cPAHs by USEPA Method 8270 SIM.

Groundwater sampling results indicated that TPH-g, TPH-d, TPH-o, benzene, and total xylenes were above MTCA Method A CULs (Leidos, 2014). Analytical results are summarized in **Appendix A** and the monitoring well locations are shown on **Figure 2A** and **2B**.

3.1.2.2 Leidos Well Installation and Sampling

Additional monitoring wells were installed by Leidos between 2018 through 2021 consistent with the drilling methods described above.

The monitoring wells (MW-23 through MW-39 and D-9 through D-27) were constructed with pre-packed Schedule 40 poly-vinyl chloride (PVC) casing and 0.010-inch factory slotted screen with 2/12 sand filter pack. Each monitoring well was completed at the ground surface with a flush-mounted, traffic-rated well-box. Wells were developed using pump and surging method until water was clear and free of sediment (Leidos, 2017). Available monitoring well construction logs are included in **Appendix C**.

Groundwater monitoring of the new and existing wells was performed from 2019 to 2022 using low-flow purging and sampling techniques. The samples were analyzed for:

- Gasoline Range Organics (GRO) by ECY 97-602 NWTPH-Gx,
- Diesel Range Organics (DRO) and Heavy Oil Range Organics (HRO) by ECY 97-602 NWTPH-Dx extended,
- BTEX by SW-846 8260B,
- MTBE by SW-846 8260B, and
- PAHs by USEPA Method 8310.

3.1.3 AECOM 2023 Groundwater Monitoring and Well Resurveying

AECOM assumed management of the Site groundwater monitoring and completion of the additional RI activities in 2023. The current quarterly groundwater monitoring program is presented in **Table 1**. As requested by Ecology in mid-2023, analysis for silica-gel cleanup for TPH-d and TPH-o was also added to the sampling plan, for the third and fourth quarter sampling events in 2023.

The monitoring well network was resurveyed in 2023 by a Washington State licensed land-surveyor to re-establish a common elevation datum for the entire Site. Monitoring well top of casing elevations were measured to the nearest 0.01-foot, NAVD88. The resurveyed top of casing elevations are summarized in **Table 2**. Quality assurance/quality control (QA/QC) samples were collected and analyzed by SAIC and Leidos per the SAP and QAPP (**Appendix E**) and by AECOM during the 2023 groundwater monitoring. Duplicate soil and groundwater samples were collected at a rate of one per 20 samples collected for each media. Additional QA/QC samples included (1) one trip blank to accompany each sample cooler containing water samples, and (2) equipment rinse samples at a rate of one per sampling activity to verify equipment decontamination procedures. Trip blank and equipment rinse QA/QC samples were analyzed for GRO by NWTPH-Gx, and BTEX by SW-846 8260B. Field duplicate samples were also analyzed for TPH-d and TPH-o by NWTPH-Dx.

4. Subsurface Conditions

4.1 Geology

The subsurface soil conditions are depicted on the cross-section on **Figure 4**. The Site is underlain by dredged fill material consisting of fine to medium sand with varying amounts of silt and marine shell fragments and ranges from approximately 3.5 to 11 feet in thickness. The fill is underlain by approximately 3 to 6 feet of tidal flat deposits consisting of silt with varying amounts of sand, organic matter, and clay. An approximately 5- to 70-foot-thick layer of fine to medium sand with varying amounts of silt underlies the tidal flat deposits.

4.2 Hydrogeology

Two water-bearing zones have been identified beneath the Site: an upper water bearing zone, referred to as the perched GWBU and a lower confined to semi-confined water bearing zone, referred to as the sand aquifer. The unconfined perched GWBU lies within the dredged fill material and groundwater levels in this unit vary seasonally. The perched GWBU is separated from the underlying water-bearing zone by an aquitard of mostly silt (Leidos, 2014). Groundwater in the perched GWBU is not believed to be tidally influenced and appears to mound and flow radially away from the center of the Site, mostly to the north, northeast, and east (**Figure 5A** and **5B)**.

The sand aquifer is present within a fine to medium sand layer and is semi-confined to confined. The sand aquifer is believed to be tidally influenced by fluctuations in the Puyallup River and the Thea Foss and Wheeler-Osgood Waterways. Potentiometric surface elevations were measured at wells within the sand aquifer through several tidal cycles in 1992, in which a time lag of approximately 1 to 3.5 hours was observed between the tidal maxima or minima and the corresponding response in the monitoring well (GeoEngineers, 1993). Data collected in 1992 suggests the inferred gradient within the sand aquifer during high tide is towards the northeast and northwesterly during low tide (GeoEngineers, 1993). Groundwater elevation data measured during high and low tides in October 2023 indicate an apparent groundwater divide within the sand aquifer near the center of the Site. West of the divide groundwater flow is generally to the northwest and east of the divide it is generally to the east during high and low tidal conditions (**Table 3; Figures 5C**, **5D** and **5E**).

A tidal influence study was performed in September 2016 to evaluate groundwater flow patterns and tidal influence on both the perched GWBU and sand aquifer (Leidos, 2017). Water level measurements were collected at wells MW-10, MW-14, MW-18, MW-19, MW-21, MW-22, D-1, D-2A, D-3, D-6, and D-7 once per hour for the entire month. Water level data and potentiometric maps developed by Leidos are included in **Appendix B.** The findings indicated that the groundwater flow within the perched GWBU was generally northeasterly during low and high tide and within the sand aquifer fluctuated between northwesterly during low tide and northeasterly during high tide.

4.3 SPH Occurrence

SPH has been measured consistently in two of the Site monitoring wells, MW-20 and D-13 (**Table 2**). The inferred extent and thickness of SPH measured on November 13, 2023, is depicted on **Figure 6A** and **6B**. The greatest measured thickness of SPH in 2023 was in well D-13, which is situated in the southeastern corner of the Property. A graph of SPH thickness versus depth to groundwater in well MW-20 is provided in **Appendix F**. Fluctuations in groundwater levels appear to affect the SPH thickness, (e.g., as groundwater levels rise, LNAPL thickness decreases). Historically, up to 0.41 feet of SPH has been measured in MW-20 and 0.5 feet in D-13. During quarterly monitoring in 2023, SPH ranged in thickness from 0.01 feet to 0.03 feet at MW-20 and 0.01 to 0.46 feet at D-13.

5. Analytical Results and Conceptual Site Model

The RI analytical testing was performed in accordance with the AO, the RI Work Plan, multiple supplemental work plans and/or work plan addendums, the QAPP, and the SAP (**Appendix E**) (Ecology, 2009; SAIC, 2010, 2013; Leidos, 2015, 2016, 2018, 2020). Soil and groundwater samples were submitted to ELLE, an Ecology-accredited laboratory. The RI analytical data that was acquired prior to 2023 is presented in **Appendix D,** where data is available and if not previously submitted. The 2023 groundwater analytical data was validated by an AECOM Chemist and no data quality issues were identified. The validation report and the laboratory analytical reports are included in **Appendix F**.

The current and previous soil and groundwater analytical results are compared to the MTCA Method A CULs, and application of MTCA Methods for this Site are further discussed in Section 5.5.

5.1 Soil

The petroleum hydrocarbon distribution in soil, based on earlier Site investigations (1984 through 2001), is depicted on **Figure 3A**. The TPH distribution in soil exceeding the MTCA Method A CULs based on additional Site characterization conducted between 2010 and 2021 is depicted on **Figure 3B** and the benzene distribution is shown on **Figure 3C**. The previous analytical results are presented in **Appendix A**, previous figures are included in **Appendix B** and available laboratory reports are included in **Appendix D** (if not previously submitted).

Petroleum hydrocarbon concentrations exceeding MTCA Method A CULs varied across the Property and ranged from 2 to 11 feet bgs. Petroleum hydrocarbons exceeding MTCA Method A CULs also appear to extend off-Property to the northwest, south and west (**Figure 3B**) at depths ranging from 2 to 8 feet bgs. The western off-Property area of contamination was noted to be slightly deeper ranging from 5.5 to 11.5 feet bgs.

5.2 Groundwater

Groundwater monitoring has been performed periodically at the Site since 1984. Historical groundwater analytical results are provided in **Appendix A**. Recent groundwater analytical results from 2023 are summarized in **Table 2**. Groundwater concentrations exceeding MTCA Method A CULs from monitoring wells in the perched GWBU and deeper sand aquifer are shown on **Figure 6A** and **Figure 6B**, respectively. The 2023 data indicated that the perched GWBU had exceedances of TPH-g, TPH-d, and TPH-o across the Property and off-Property to the northwest, north and east. The 2023 data for the sand aquifer indicated that the exceedances were primarily TPH-d and TPH-o and appear to extend off-Property to the north, west and east. COCs in the deeper well (D-14), screened from 29 to 32 ft bgs, continue to be non-detect or below the CULs indicating that vertical migration of dissolved-phase hydrocarbons does not appear to have significantly occurred.

Laboratory analyses conducted in 2023 indicate that petroleum source areas at the Site are highly weathered and degraded, and that a minimal portion of the reported TPH-d and TPH-o at the Site are petroleum hydrocarbons. In 2023, silica gel cleanup was performed prior to analyses on a subset of split TPH-d and TPH-o samples to determine the portion of non-petroleum compounds that have oxygen in their molecular structures. These oxygen containing compounds, i.e., polar metabolites, are non-petroleum hydrocarbons that remain and continue to degrade following the biodegradation of a petroleum source, which result in a reduction in the toxicity of the overall mixture over time. In 2023, Ecology set separate CULs for both the polar metabolite fraction and the petroleum fraction (Ecology, 2023).

The results of sampling with and without silica gel cleanup are summarized in **Table 2**. To calculate the polar metabolite and petroleum fractions, the TPH-d and TPH-o concentrations are first combined for both the with and without silica gel cleanup analytical results. The concentrations of polar metabolites were calculated by then subtracting out the concentrations removed with silica gel cleanup for each sample with and without silica gel cleanup sample analysis pair, with the removed fraction representing polar metabolites and the remainder representing the petroleum fraction. These analyses showed that greater than 90% of the TPH-d and TPH-o mass reported in all samples is attributed to polar metabolites. The

petroleum fraction of TPH-d and TPH-o exceeded the MTCA Method A CULs in just four samples. The polar metabolite fraction exceeded the CULs in 50 samples over two sampling events.

5.3 Conceptual Site Model (CSM)

The CSM identifies suspected sources of hazardous substances/petroleum products, the types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors. An updated CSM was prepared for the Site, and is shown graphically in **Appendix G**. The suspected sources of contamination at the Site are associated with releases at the former bulk fuel facility ASTs, USTs, piping, spills and garages (**Figure 2B**).Transport mechanisms identified at the Site include direct discharge of contaminants from past fuel storage operations to subsurface soil, migration from soil into groundwater, lateral groundwater flow/advection, SPH migration, and volatilization of petroleum hydrocarbons and other volatile contaminants from the soil and groundwater. Potentially complete pathways are primarily for potential exposure for current or future construction workers. Potentially complete exposure pathways for commercial worker exposure are from potential vapor inhalation and from potential dermal contact with, or ingestion of soil and/or groundwater.

The CSM will be used in the development of appropriate remedial alternatives and selection of a preferred cleanup action for the Site.

5.3.1 Source Characterization and Constituents of Concern

Primary soil COCs have been identified for the Site based on known historical use as a bulk fuel terminal, previous analytical results (**Appendix A**) and current groundwater analytical results (**Table 2**). COCs include BTEX constituents, TPH-g, TPH-d, and TPH-o, and several sources of soil and groundwater contamination have been identified at the Site. Previous soil analytical results (**Appendix A**) indicate TPH-o is generally limited to the southeastern portion of the Site while TPH-g and TPH-d are present in soil over most of the Property and extend off-Property to the north, west, and south (**Figure 3A, 3B,** and **3C**). Soil contamination is limited to depths between approximately 2 and 11.5 feet bgs.

Primary groundwater COCs have been identified as TPH-g, TPH-d, and TPH-o within the perched GWBU, and as TPH-d and TPH-o within the sand aquifer unit based on current groundwater analytical data (**Table 2**). BTEX constituents were historically above MTCA Method A CULs at some wells within the perched GWBU and the sand aquifer unit (**Appendix B**), however, no BTEX constituents have been detected above the respective CULs since at least 2014 (Leidos, 2014). Groundwater COCs exist above MTCA Method A CULs over most of the Property and generally extend off-Property to the north, west, and east in wells within the perched GWBU and the sand aquifer (**Figured 6A** and **6B**). As indicated above, significant differences in results between samples analyzed with and without silica gel cleanup for TPH-d and TPH-o indicate that petroleum in groundwater is highly weathered. The low concentrations of TPH-d and TPH-o detected following silica gel cleanup indicate there is minimal remaining petroleum contamination. The fraction removed by silica gel cleanup, which is greater than 90% of the TPH-d and TPH-o mass detected in all samples on average, is attributed to polar metabolites, which remain following the biodegradation of a petroleum source (Ecology, 2023). There were significantly more exceedances of the polar metabolite CULs than the petroleum TPH-d+o MTCA Method A CUL (50 polar metabolite vs 4 petroleum exceedances) in 2023, which is indicative of a highly weathered and degraded petroleum source. The lack of polar organic compounds in some background groundwater samples indicate that the presence of natural organic (non-petroleum/biogenic) constituents may be minimal.

SPH is regularly detected at wells MW-20 and D-13 with apparent increases in thicknesses in well MW-20 correlating with relatively lower groundwater elevations (from 2010 through 2016), (**Appendix H**). The relationship between groundwater elevations and product thicknesses suggests that SPH may be displaced laterally as the water table rises, causing a decrease in apparent SPH thickness. SPH that is either displaced or entrapped in the vadose zone could continue to be an ongoing source for apparent short-term changes in the dissolved phase groundwater contamination within the GWBU (ITRC 2018b). However, over the long-term, SPH thicknesses have exhibited a decreasing trend with measured thicknesses not exceeding 0.05 feet since at least 2020 at MW-20. SPH trend data for well D-13 are limited and will continue to be evaluated to determine the relationship between groundwater elevations and apparent SPH thickness.

Maximum measured thicknesses through 2023 were 0.04 feet and 0.46 feet at MW-20 and D-13, respectively.

A generally stable, or no discernable trend is apparent for the dissolved-phase COC plume within the perched GWBU and sand aquifer. However, seasonal groundwater elevation fluctuations and/or tidal influences may affect observed variable results over time. It is noted that observed trends in concentrations over the last three years are generally stable to decreasing over time. COC concentration versus groundwater elevation trend graphs for select wells (MW-10, MW-21, MW-23, D-3A, D-6, D-7, and D-8) are presented in **Appendix H**. Groundwater trends will continue to be monitored and a further analysis of contaminant degradation will be provided in the Final RI Report, the FS, and/or during assessment of an appropriate remedial path forward.

5.3.2 Contaminant Fate and Transport Mechanisms

A release of petroleum hydrocarbons will migrate vertically and laterally by various mechanisms including gravity-driven overland flow, advection, dispersion, water-driven flow, and groundwater flow, dependent on the properties of the released petroleum hydrocarbon (viscosity, density, surface tension), soil properties (porosity, pore size distribution, connected pore space, and moisture level), and interface properties (surface tension, sorption, and molecular forces) (ITRC 2018a). Generally, the hydrogeologic characteristics of a site control the fate and transport of contaminants, particularly the migration of SPH and dissolved phase hydrocarbons in groundwater.

BTEX constituents, TPH-g, TPH-d, and TPH-o are present in soil from releases during historical operations of the bulk fuel terminal. The perched GWBU generally consists of 3 to 6 feet of dredged fill material characterized by fine sand with varying amounts of gravel, shell fragments, bricks, and wood. The sand aquifer consists of fine to medium sand approximately 20 feet thick and is at least partially confined by an overlying silt unit (GeoEngineers, 1993). Aquifer characteristics were evaluated in 1992 and the hydraulic conductivity of the perched GWBU was found to range between $1.1x10^{-4}$ and $1.6x10^{-2}$ centimeters per second (cm/sec) and in the sand aquifer between $6.2x10^{-4}$ and $2.4x10^{-2}$ cm/sec (GeoEngineers, 1993). Following a release, petroleum hydrocarbons migrate through the vadose zone to groundwater by infiltration and percolation and once in the water table, petroleum hydrocarbons are transported by advective groundwater flow. The 2023 groundwater analytical data (**Table 2**) indicates the known current lateral extent of the dissolved-phase petroleum hydrocarbon plume is located within most of the Property and extends off-Property to the north, west, and east (**Figure 6A** and **Figure 6B**). The southern and northern extent of the dissolved-phase groundwater plume within the perched GWBU and the sand aquifer is currently unknown and additional monitoring wells will be required to further evaluate the full extent of the groundwater plume.

5.3.3 Exposure Pathways and Potential Receptors

Human and ecological receptors may be exposed to COCs through different environmental media (air, water, soil) and through different routes of exposure (generally ingestion, inhalation, and dermal adsorption). Potential receptors should be evaluated based on current and reasonably anticipated future land use. Exposure pathways are the way a potential receptor may come into contact with a COC and can include, but not be limited to direct contact, leaching from soil to groundwater, runoff to surface water, dispersion of dust in the air, and volatilization to outdoor or indoor air.

The Site is in an industrial area and is currently used by GEO Group as transportation offices, bus and employee parking for the adjacent Northwest Detention Center and no changes in land use are anticipated (Leidos, 2014). Additionally, a Warranty Deed, which prohibits residential uses of the Property, were placed on the Site in 1999 as an agreement between Chevron and the purchaser (Warranty Deed, 1999). The Warranty Deed and associated restrictions are applicable to each successor, assignee, or lessee of the property. Therefore, land use is anticipated to remain industrial (Warranty Deed, 1999).

Current and future potential receptors, exposure pathways, and exposure routes for contamination are summarized in the CSM that was updated in 2023 (**Appendix G**) and by specific exposure media.

5.3.3.1 Soil

The updated CSM determined the direct contact and incidental ingestion pathways for residential and recreational/trespasser scenario are not likely a risk or regulatory concern for soil at the Site since the property is fenced and not used for residential (and restrictive covenants prohibiting residential use of the property are in place) or recreational activities. However, the direct contact exposure and incidental ingestion pathways for the construction worker scenario are potential pathways of concern. Petroleum contaminated soil remains at the Site from approximately 2 to 11.5 feet bgs creating a potential risk of direct exposure for construction workers.

5.3.3.2 Groundwater

Groundwater has been affected by the migration of contamination into the saturated zone soils. Potential exposure pathways for groundwater contamination include volatilization into soil vapor and subsequent exposure through the vapor pathway or via the direct contact pathway (dermal exposure or ingestion). Groundwater in the Property area is not used for drinking water and no potable water supply wells were identified in the Property vicinity. Future utility earthwork at the Property could result in exposure to contaminated groundwater by construction workers during the excavation of saturated zone soils and/or by contact with contaminated water.

5.3.3.3 Soil Gas/Air

The updated CSM determined that contaminated soil gas associated with the soil and groundwater contamination could pose a vapor intrusion risk into existing structures and to construction workers performing subsurface work. Vapor intrusion risks will be assessed through the collection of soil gas and sub-slab vapor samples in the existing on-Property office building, if deemed necessary following an inspection of the building construction.

5.3.4 Terrestrial Ecological Evaluation (TEE)

This section documents the TEE analysis and basis for conclusions performed for the Site. The TEE Form is presented in **Appendix I.** AECOM reviewed the previously completed TEE in the Draft RI (Leidos, 2014), the current Site conditions, anticipated future use, and the existing soil data. MTCA requires an evaluation of the potential impact for the COCs on terrestrial ecological receptors in accordance with the procedures outlined in WAC 173-340-7490.

Under WAC 173-340-7491, a site may be excluded from the TEE requirement if any of the following criteria are met:

1. Point of Compliance: WAC 173-340-7491(1)(a) - All soil contaminated with hazardous substances is, or will be, located below the points of compliance (POC):
    a. All soil contamination is, or will be, at least 15 feet below the surface.
    b. All soil contamination is, or will be, at least 6 feet below the surface, and institutional controls are used to manage remaining contamination.
2. Barriers to Exposure: WAC 173-340-7491(1)(b) - All soil contaminated with hazardous substances is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination, and institutional controls are used to manage remaining contamination.
3. Developed Land: WAC 173-340-7491(1)(c) - Where the site conditions are related or connected to undeveloped land in the following manner:
    a. For sites contaminated with hazardous substances other than those specified in WAC 173-340-7491(c)(ii), there is less than 1.5 acres of contiguous undeveloped land on the site or within 500 feet of any area of the site.
    b. For sites contaminated with any hazardous substances specified in WAC 173-340-7491(c)(ii), there is less than ¼ acre of contiguous undeveloped land on or within 500 feet of any area of the site affected by these hazardous substances.

4. Background Concentrations: WAC 173-340-7491(1)(d) - Concentrations of hazardous substances in soil do not exceed natural background levels, as determined under WAC 173-340-709.

The Site does not meet the above-listed criteria for TEE exclusion. Therefore, a simplified TEE was completed for the Site. Under WAC 173-340-7492, a site does not require further evaluation if any of the following criteria are met:

1. Exposure Analysis: WAC 173-340-7492(2)(a) – Either or both of the following conditions are met:
    a. Area of contamination at the Site is not more than 350 square feet.
    b. Current or planned land use makes wildlife exposure unlikely (based on Table 749-1).
2. Pathway Analysis: WAC 173-340-7492(2)(b) – No potential exposure pathways from soil contamination to ecological receptors.
3. Contaminant Analysis: WAC 173-340-7492(2)(c) – Any of the following conditions are met:
    a. No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
    b. No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
    c. No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
    d. No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

The simplified TEE determined wildlife exposure to contamination is unlikely based on WAC 173-340-7492(2)(a), Table 749-1 (**Table 4**). Thus, no further ecological evaluation is necessary.

5.4 Proposed Cleanup Standards

Cleanup standards proposed for the Site were derived in accordance with WAC 173-340-700 and consist of the following: (a) Selecting CULs for hazardous substances present at the site, (b) Identifying the location where these cleanup levels must be met (point of compliance), and (c) Other regulatory requirements that apply to the site because of the type of action and/or location of the site ("applicable state and federal laws").

The MTCA process for establishing cleanup levels begins with identifying the nature of the contamination, the potentially contaminated media, the current and potential pathways of exposure, the current and potential receptors, and the current and potential land and resource uses (WAC 173-340-700[5]). CULs are established for each media impacted (i.e., soil, groundwater, and other media) and are selected to be protective of human health and the environment, in accordance with MTCA cleanup regulations (WAC 173-340). The nature of the contamination, the potentially contaminated media, the current and potential pathways of exposure, the current and potential receptors, and the current and potential land and resource uses (WAC 173-340-700[5]) were evaluated as part of the cleanup standard selection process. CULs were established based upon the protection of human health, as the TEE (Section 5.3.4) determined that exposure to wildlife is unlikely at the Site. CULs were derived based upon the Property and surrounding parcels being zoned for industrial use and are anticipated to remain so for the foreseeable future.

In determining the most applicable Site-specific MTCA Method CULs, the following will be considered:

- Size of the Site and identified constituents of interest (COIs) for soil and groundwater.
- Current and reasonably anticipated future Site use.
- Groundwater status within the Site aquifer(s).

- Interaction between contaminated soil and groundwater.

5.4.1 Applicable or Relevant and Appropriate Requirements (ARARs)

The RCW 70.105D.030(2)d requires cleanup standards to be "at least as stringent as all applicable state and federal laws." Applicable or Relevant and Appropriate Requirements (ARARs) proposed and/or selected for the Site. The cleanup standards set forth in MTCA Cleanup Regulations (WAC 173-340) for soil, groundwater, and other media (indoor/ambient air, soil gas, sub-slab soil gas) are proposed for adoption at the Site.

Additional ARARs will be evaluated during the development of the FS. These ARARs often include permitting tied to the construction and implementation of remedial actions. Potential regulatory requirements could include the following:

- Clean Water Act (33 United States Code [USC] Section 1251)
- State Environmental Policy Act (SEPA) (RCW 43.21C and WAC 197-11)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (40 Code of Federal Regulations [CFR] Subchapter J)
- Resource Conservation and Recovery Act regulations for waste generation, transportation, and disposal (WAC 173-303, WAC 173-350).
- Solid Waste Management Chapter 43.21 RCW, Minimum Functional Standards for Solid Waste Handling (WAC 173-304)
- Washington Hazardous Waste Management Act (RCW 70.105; WAC 173-303)
- Washington Water Pollution Control Act (Chapter 90.48 RCW; Chapter 173-201A WAC; Chapter 173-200 WAC)
- Occupational Safety and Health Act (OSHA) (Part 1910 of Title 29 of the Code of Federal Regulations [29 CFR 1910])
- General Occupational Health Standards and Safety Standards for Construction Work (WAC 296-62 and 296-155)
- Minimum Standards for Construction and Maintenance of Wells (WAC 173-160)
- Underground Utilities, RCW 19.122.010, General Protection Requirements (WAC 296-155-655).
- Coverage under the general construction stormwater National Pollutant Discharge Elimination System (NPDES) permit.
- City permit requirements (e.g., grading permit, shoreline management permit).

5.4.2 Soil CULs

Site-specific MTCA CULs for soil were evaluated in 2014 and modified MTCA Method C CULs were proposed for soil since they can be applied to industrial sites and reasonably anticipated future Site use is to remain as industrial (Leidos, 2014). A direct contact CUL of over 50,000 mg/kg for total TPH was calculated using the Ecology Workbook for Calculating Cleanup Levels for Petroleum Contaminated Sites (MTCATPH Version 11) (**Appendix J**). Since the calculated CUL exceeds residual soil saturation values (WAC 173-340-747.55), modified MTCA Method C CULs were proposed for TPH-g, TPH-d, and TPH-o based on the residual soil saturation values for medium- to coarse- sand, summarized as follows (Leidos, 2014; Ecology, 2001):

- TPH-g: 3,266 mg/kg
- TPH-d: 7,742 mg/kg
- TPH-o: 17,419 mg/kg

However, the proposed soil CULs may require restrictions to be placed on the Property to ensure future protection of human health and the environment (Leidos, 2014). Since additional restrictions with the State have not yet been placed on the Property (only Warranty Deed related to conditions of original sale), further evaluation may be necessary to determine the appropriate Site-specific soil CULs. A comparison of potentially applicable existing soil CULs for Site COIs as an alternative to those proposed in 2014 is presented below:

COI	MTCA Method A CUL Unrestricted Land Use (mg/kg)	MTCA Method B CUL Direct Contact – Cancer (mg/kg)	MTCA Method B CUL Direct Contact-Noncancer (mg/kg)	Protective of Groundwater CUL–Saturated (mg/kg)
Benzene	0.03	18	320	0.0017
Toluene	7	NCE	6,400	0.27
Ethylbenzene	6	NCE	8,000	0.34
Total Xylenes	9	NCE	16,000	0.83
TPH-g	30*	NCE	NCE	NCE
TPH-d	2,000	NCE	NCE	NCE
TPH-o	2,000	NCE	NCE	NCE

Notes:
*Two TPH-g CULs exist, one for use when benzene is detected and one when benzene is not detected. The more conservative value is presented on the table.
µg/L = micrograms per liter
NCE = no CUL established

5.4.3 Groundwater CULs

Since groundwater within the perched GWBU and sand aquifer is considered non-potable, alternative groundwater CULs will likely be appropriate for the Site, however, other factors will be considered during development of groundwater CULs. A comparison of potentially applicable existing groundwater CULs for Site COIs is presented below:

COI	MTCA Method A CUL (µg/L)	MTCA Method B CUL Cancer (µg/L)	MTCA Method B CUL Noncancer (µg/L)	MTCA Method B CUL Potable Groundwater (µg/L)
Benzene	5	0.8	32	5
Toluene	1,000	NCE	640	640
Ethylbenzene	700	NCE	800	700
Total Xylenes	1,000	NCE	1,600	1,600
TPH-g	800*	NCE	NCE	NCE
TPH-d	500	NCE	NCE	NCE
TPH-o	500	NCE	NCE	NCE

Notes:
*Two TPH-g CULs exist, one for use when benzene is detected and one when benzene is not detected. The more conservative value is presented on the table.
µg/L = micrograms per liter
NCE = no CUL established

MTCA Method A, MTCA Method B, other CULs, or a combination of multiple CULs may be appropriate for groundwater at the Site. Potentially applicable CULs will continue to be evaluated and final Site-specific CULs will be presented in the Final RI/FS. MTCA Method A CULs will be used for groundwater at the Site until final Site-specific CULs are established.

5.4.4 Cleanup Standards for Other Media (Indoor/Ambient Air, Soil Gas, Sub-Slab Soil Gas)

For the vapor intrusion (VI) exposure pathway, acceptable air quality occurs when the contribution from VI and any emissions from site remediation activities do not exceed the appropriate Method B or Method C air cleanup levels. Based upon the Property status, Method C (industrial) air CULs are proposed for the property. In general, soil cleanup levels established to be protective of groundwater and groundwater CULs established to be protective of beneficial use are considered sufficiently protective of the VI pathway. Screening levels and cleanup levels for the Property can be in accordance with Ecology's Vapor Intrusion Guidance (Ecology, 2022). Additional Tier 1 and Tier 2 VI evaluations would utilize MTCA Method C Groundwater and Soil-Gas Screening levels to determine if the following indoor air CULs could be exceeded:

COI	MTCA Method C Indoor Air Cleanup Levels (µg/m^3)
Benzene	0.32
Naphthalene	0.074
TPH	46 or a site-specific determination

5.4.5 Points of Compliance (POC)

The POC is the point or points on a site where CULs must be met and may include both standard and conditional POCs, defined as follows (Ecology, 2013)

- The **standard POC** for each medium is generally defined as "throughout the site." Unless a site qualifies for a conditional POC, CULs must be met at the standard POC for each media.
- The **conditional POC** is defined as a less stringent POC for certain media that may only be established if certain specified conditions are met. Under a conditional POC, any contamination remaining on-site must be contained within a specified area that protects humans and ecological receptors from exposure to the contaminants.

Groundwater POCs for the Site are identified as the standard POCs, in which CULs must be met throughout the Site. Since the potential for direct contact with human receptors when soil is disturbed could not be eliminated as a potential exposure pathway, the POC for soil is identified as the standard POCs from ground surface to 15 feet bgs.

5.5 Data Gaps

Several of the additional site characterization elements proposed in the Ecology-approved 2020 RI Work Plan (Leidos, 2020) were not implemented due to various logistical and access issues. The proposed scope of the 2020 RI field work included additional shallow and deep monitoring wells and soil borings as shown on **Figure 7**. Based on AECOM's assessment of the CSM and recent groundwater data, revisions to the 2020 investigation scope are proposed to address identified data gaps and prior investigation objectives as summarized below.

5.5.1 Groundwater

The extent of the dissolved-phase COC plume has not been fully delineated within the perched GWBU or the sand aquifer. Seven nested well pairs were proposed but were not installed, including: northwest and northeast of the Richlite property (MW-35/D-23 and MW-40/D-28), to the south on the BNSF property (MW-27/D-11 and MW-28/D-16), and to the northwest adjacent to the waterway (MW-33/D-21). **Figure 7** shows the previously proposed groundwater monitoring well locations (Leidos, 2020). Based on the latest groundwater data from November 2023, the following modifications to the previous work plan are proposed and are shown on **Figure 8**:

- Eliminate proposed nested wells MW-35/D-23 as 2023 groundwater data indicated that the limits of the plume have been delineated to the northeast by MW-31/D-19 and MW-36/D-24.

- Move nested wells MW-40/D-28 approximately 100 to 150 feet to the northeast along the Richlite northern property boundary.
- Eliminate shallow monitoring well MW-33 from the nested well pair as the plume has been defined to the west based on MW-23 and MW-24. Proceed with deeper well D-21 near the Wheeler-Osgood waterway once the BNSF access agreement is in place.
- Move nested wells MW-27/D-11 approximately 100 to 200 feet to the west onto the Steeler property to better defined the southwestern limits of the plume.
- Move nested wells MW-28/D16 from the BNSF property to the southeast corner of the Property for plume delineation and to facilitate access for future sampling.
- Add another set of nested wells (MW-33/D-23) on the Steeler property to the west of MW-25/D-10 for delineation of groundwater in the western direction.

5.5.2 Soil

Additional delineation of petroleum hydrocarbons to the south (BNSF property) was proposed and was contingent on obtaining an access agreement from BNSF. Nine additional soil borings (OB-9 through OB-17) were proposed along the former rail spur and to south on BNSF property (**Figure 7**). If soil impacts are not apparent in the initial four soil borings (OB-9 to OB-12) completed along the former rail spur, no additional borings are warranted. However, if impacts are apparent, then step-out soil borings will be conducted. The revised initial boring locations are shown on **Figure 8**.

5.5.3 Soil Gas/Air

Currently, only one building is present on the Property which is used as an office and is assumed to be slab-on-grade construction. No prior soil gas or VI assessment has been identified for the Property. The office building is located adjacent to well D-13 which regularly contains SPH. Thus, potential VI concerns may exist for the building and soil gas testing is proposed in areas with measurable SPH (e.g., around wells D-13 and MW-20) to evaluate if soil gas screening levels for petroleum hydrocarbon related VOCs have been exceeded and warrant further assessment. This soil gas assessment will be conducted in accordance with Ecology's guidance for evaluating VI (Ecology, 2022).

5.5.4 Tidal Influence Study

Since the tidal influence study was completed in 2016, new wells have been added to the Site monitoring well network, and additional wells are proposed. Further assessment of tidal influences on the Site groundwater flow is proposed to better understand the relationship between groundwater flow and tidal fluctuation and the distribution of dissolved phase contamination within the shallow and deep groundwater zones. The tidal study design will be developed following the installation of the new monitoring wells as needed.

Additional RI activities for the Site will focus on filling these identified data gaps to better characterize the sources of contamination and develop an effective FS and future remedial strategy.

6. Conclusions and Recommendations

AECOM updated the RI to include the most recent groundwater monitoring data and an updated CSM. Prior and recent soil and groundwater data indicates that the COCs associated with the former bulk fuel terminal are BTEX, TPH-g, TPH-d, and TPH-o. The extent of soil and groundwater contamination is summarized as follows:

- Soil contamination extends over most of the Property and off-Property to the northwest, west, and south at depths from approximately 2 to 11.5 feet bgs (**Figures 3A, 3B,** and **3C**) based on soil analytical results collected between 1990 and 2021.

- The extent of the dissolved-phase hydrocarbon plume is not fully defined in either the perched GWBU or in the sand aquifer. The plume extends across most of the Property in both the perched GWBU and the sand aquifer. Additional groundwater monitoring wells are warranted to the north, southeast, and west to further evaluate the extent of contamination within the perched GWBU, and to the north, northwest, and south to further evaluate the extent of contamination within the sand aquifer (**Figures 6A** and **6B**).
- The Leidos RI Work Plan (July 2020) included several additional monitoring wells which were not installed during the last phase of investigation work due to logistical issues (**Figure 7**). Based on review of the recent groundwater analytical data and updates to the CSM, modifications to the proposed monitoring well locations (**Figure 8**) are as follows:
    - Eliminate proposed nested wells MW-35 and D-23 as 2023 groundwater data indicated that the limits of the plume have been delineated to the northeast by MW-31/D-19 and MW-36/D-24.
    - Move nested wells MW-40/D-28 approximately 100 to 150 feet to the northeast along the Richlite northern property.
    - Eliminate shallow monitoring well MW-33 from the nested well pair as the plume has been defined to the west based on MW-23 and MW-24. Proceed with D-21 near the Wheeler-Osgood Waterway once the BNSF access agreement is in place.
    - Move nested wells MW-27/D-11 approximately 100 to 200 feet to the west onto the Steeler property to better defined the southwestern limits of the plume.
    - Move nested wells MW-28/D16 from the BNSF property to the southeast corner of the Property for plume delineation and to facilitate access for future sampling.
    - Add another set of nested wells (MW-33/D-23) on the Steeler property to the west of MW-25/D-10 for delineation of groundwater in the western direction.
- The 2020 RI Work plan included additional delineation of petroleum hydrocarbons in soil and groundwater to the south (BNSF property) of the Property. Nine soil borings (OB-9 through OB-17) were initially proposed along the former rail spur and further south on BNSF property (**Figure 7**). AECOM instead proposes to complete four initial soil borings (OB-9 to OB-12) along the former rail spur and assess if additional borings are necessary to evaluate the extent of any impacts. The initial borings are shown on **Figure 8**.
- SPH is regularly detected at wells MW-20 and D-13 (**Appendix H)**. SPH thicknesses have exhibited a decreasing trend with measured thicknesses not exceeding 0.05 feet since at least 2020 at MW-20. SPH trend data for well D-13 are limited and will continue to be evaluated to determine the relationship between groundwater elevations and apparent SPH thickness. Maximum measured thicknesses through 2023 were 0.04 feet and 0.46 feet at MW-20 and D-13, respectively. Transmissivity testing may be conducted to assess recoverability of SPH from these wells.

The Site did not meet the requirements for TEE exclusion and a simplified TEE was completed using WAC 173-340-7492, Table 749-1 (**Table 4**) (Leidos 2014). Based on the results in **Table 4**, the Site does not pose a threat of adverse effects to terrestrial ecological receptors, therefore, no further TEE is required. Additionally, Site-specific CULs will continue to be assessed as a remedial path forward is evaluated and a subsequent Final RI Report and FS is prepared.

Based on the information gathered to date during the prior RI activities, data gaps were identified which will require further site investigation and monitoring. The additional data gap assessment will include the following:

- Continue quarterly groundwater monitoring per the current schedule (**Table 1**). Results will be presented in quarterly groundwater monitoring reports.
- Proceed with advancing the additional groundwater monitoring wells as presented above to further define groundwater impacts in both GWBUs to Method A CULs.
- Proceed with advancing additional soil borings as indicated above and collection/analysis of soil samples to further define remaining soil impacts to Method A CULs.

- Evaluate if VI concerns exist at the Property, the scope of the VI assessment will be outlined in a work plan that will be prepared in conformance with Ecology's VI guidance (Ecology 2022).
- Conduct SPH transmissivity testing to assess product recovery rates if sufficient thicknesses persist for testing.
- Conduct further assessment of tidal influences on groundwater flow as needed following additional monitoring well installation and delineation.
- Once data gaps are addressed, prepare a Final RI Report that will include an FS that will assess remedial action alternatives and develop future cleanup actions for the Site.

7. References

Cambria. 1997. Site Summary and Remedial Approach. Cambria Environmental Technology, Inc. July 18.

Chevron Marketing Department. 1984. Hydrogeologic Investigation Memorandum, Tacoma Bulk Plant, Tacoma, Washington. October 9.

Delta. 2001. Soil Disposal Memorandum, Bowman Oil. Delta Environmental Consultants, Inc. September 12.

Ecology. 2001. Concise Explanatory Statement for the Amendments to the Model Toxics Control Act, Cleanup Regulation, Chapter 173-340 WAC. Publication Number: 01-09-043. Prepared by Washington State Department of Ecology, Toxics Cleanup Program. February 12.

Ecology. 2009. Agreed Order No. DE 7111. State of Washington Department of Ecology. March.

Ecology. 2013. Model Toxics Control Act Regulations and Statute. State of Washington Department of Ecology Toxics Cleanup Program. July 14.

Ecology, 2022. Guidance for Evaluating Vapor Intrusion in Washington State. Publication No. 09-09-047. March 22.

Ecology. 2023. Guidance for Silica Gel Cleanup in Washington State. Toxics Cleanup Program, Washington State Department of Ecology. Olympia, Washington. November.

GeoEngineers. 1989. Report of Geotechnical Services, Subsurface Contamination Study, Tacoma Bulk Fuel Terminal. GeoEngineers, Inc. Bellevue, Washington. March 22.

GeoEngineers. 1993. Report of Geoenvironmental Services, Supplemental Site Characterization Study, Former Chevron Bulk Fuel Terminal. GeoEngineers, Inc. Bellevue, Washington. April 29.

GeoEngineers. 1995. Phase Separated Hydrocarbon Assessment, Former Chevron Bulk Fuel Terminal. GeoEngineers, Inc. Bellevue, Washington. September 21.

Gettler-Ryan. 2006. Event of April 27, 2006, Groundwater Monitoring and Sampling Report. Gettler-Ryan, Inc. June 5.

Hart Crowser. 1989. Correspondence from David Babcock to Mel Knutsen RE: Observation of Removal of Bulk Supply Lines, Chevron Tacoma Bulk Plant. Hart Crowser, Inc. May 16.

ITRC. 2018a. TPH Risk Evaluation at Petroleum-Contaminated Site. Interstate Technology Regulatory Council. August 21.

ITRC. 2018b. Light Non-Aqueous Phase Liquid (LNAPL) Site Management: LCSM Evolution, Decision Process, and Remedial Technologies. LNAPL-3. Interstate Technology Regulatory Council.

Leidos. 2014. Draft Remedial Investigation, Former Standard Oil Bulk Terminal. Leidos Engineering, LLC. San Ramon, California. December 15.

Leidos. 2015. Remedial Investigation Work Plan Addendum. Leidos Engineering, LLC. San Ramon, California. May 26.

Leidos. 2016. Tidal Influence Study Work Plan. Leidos Engineering, LLC. San Ramon, California. August 19.

Leidos. 2017. Supplemental Remedial Investigation Work Plan. Leidos Engineering, LLC. San Ramon, California. May 26.

Leidos. 2018. Remedial Investigation Work Plan Addendum. Leidos Engineering, LLC. San Ramon, California. March 20.

Leidos. 2020. Remedial Investigation Work Plan Addendum. Leidos Engineering, LLC. San Ramon, California. January 30.

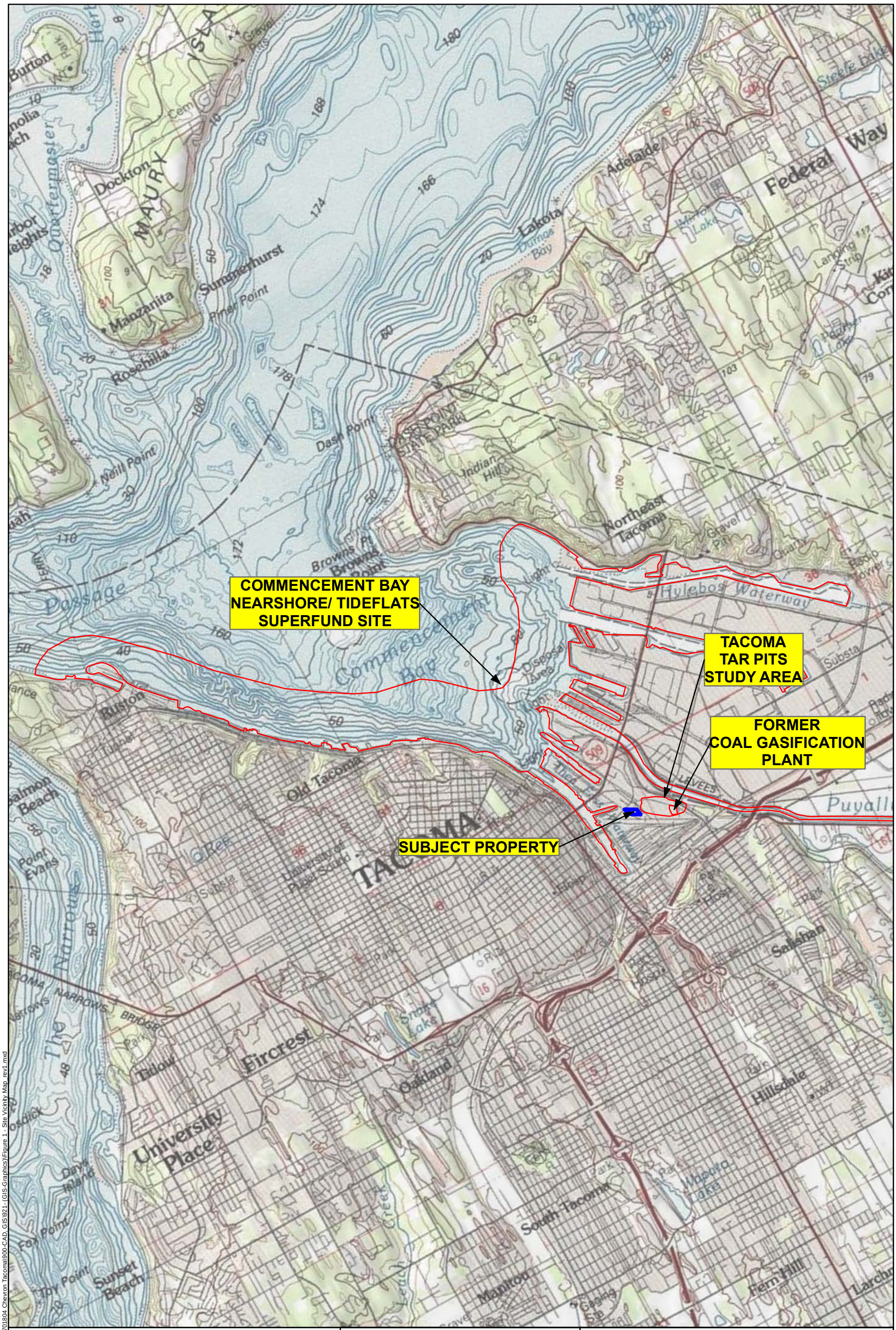
PublicGIS. 2023. Pierce County PublicGIS Map Applications. Pierce County Finance Department. Tacoma, Washington. https://matterhornwab.co.pierce.wa.us/publicgis/. Visited October 16.

SAIC. 2006. Current Use and Site Summary for Former Standard Oil Bulk Fuel Terminal #100-1348, Tacoma, Washington. Science Applications International Corporation. October 27.

SAIC. 2010. Remedial Investigation Work Plan. Science Applications International Corporation. Bothell, Washington. June 4.

SAIC. 2013. Remedial Investigation Work Plan Addendum for Off-Property Investigation, Former Standard Oil Bulk Terminal/ Chevron Facility No. 1001348, 1656 East J Street, Tacoma, Washington. Science Applications International Corporation. Bothell, Washington. April 30.

Figures



0 2,500 5,000 Feet

AECOM

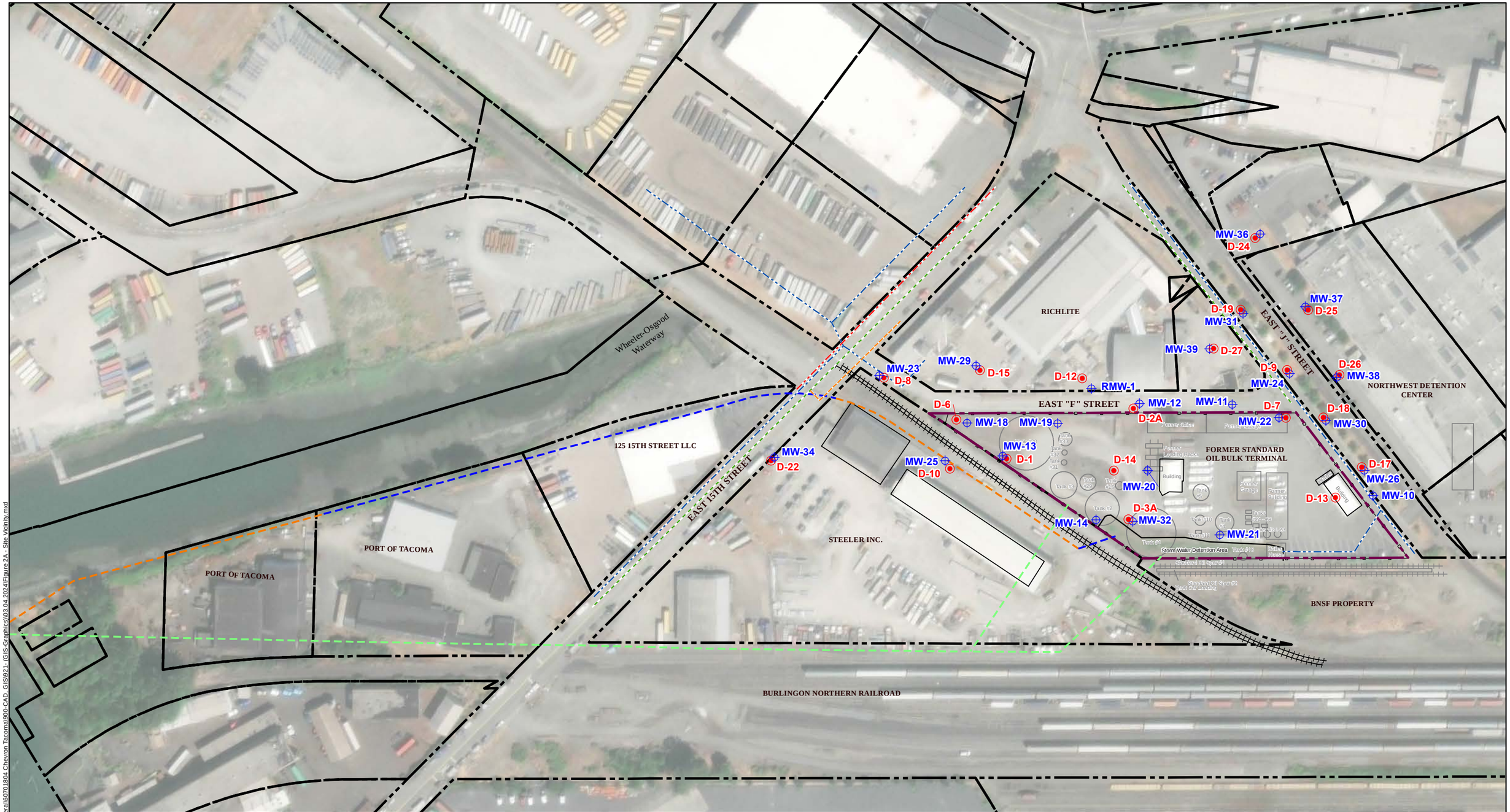
Former Chevron Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 1
Site Location Map

Date: 1/10/2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - 60701804 Chevron Tacoma\900-CAD_GIS\921-(GIS-Graphics)\Figure 1 - Site Vicinity Map_rev1.mxd



LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- Gas Line
- Overhead Line
- Sanitary Sewer Line
- Storm Sewer Line
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place
- D-12 Sand Aquifer Monitoring Well
- MW-25 Perched Groundwater-bearing Unit Monitoring Well

0 85 170 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 2A
Site Vicinity Map

Date: March 2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921- (GIS Graphics)\03.04.2024\Figure 2A - Site Vicinity.mxd

RICHLITE

NORTHWEST DETENTION CENTER

EAST "F" STREET

EAST "J" STREET

FORMER STANDARD OIL BULK TERMINAL

STEELER INC.

BNSF PROPERTY

MW-29 D-15 D-12 RMW-1 MW-39 D-27 D-09 MW-24 D-26 MW-38 MW-12 D-02A MW-11 D-6 MW-18 MW-19 MW-22 D-7 D-18 MW-30 MW-13 D-1 MW-25 D-10 D-14 MW-20 D-17 MW-26 MW-10 D-13 MW-14 D-3A MW-32 MW-21

Tank #30
Tank #33
Tank #32
Tank #31
Tank #3
Tank #29
Tank #19
Tank #2
Tank #10
Tank #4
Tank #11
Tank #1
Tank #5
Tank #18
Tanks #24 - 28
Tanks #20-23

Former Office
Former Garage
Former Loading Racks
Building
Former Garage
Former Buliding
Trailer
Building
Storm Water Detention Area
Boiler House
Standard Oil Spur #1
Standard Oil Spur #2
Tank Car Loading

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

- D-12 Sand Aquifer Monitoring Well
- MW-25 Perched Groundwater-bearing Unit Monitoring Well
- Sanitary Sewer Line
- Storm Sewer Line
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place

0 30 60 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 2B
Site Plan

Date: March 2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921 - (GIS-Graphics)\03.04.2024\Figure 2 - Site Plan.mxd

RICHLITE

EAST "J" STREET

NORTHWEST DETENTION CENTER

EAST "F" STREET

FORMER STANDARD OIL BULK TERMINAL

STEELER INC.

BNSF PROPERTY

Former Office

Former Garage

Former Loading Racks

Former Garage

Former Building

Building

Trailer

Tank #30

Tank #33

Tank #32

Tank #31

Tank #29

Tank #19

Tank #2

Tank #10

Tank #4

Tank #5

Tanks #24 - 28

Tanks #20-23

Tank #1

Tank #11

Tank #18

Boiler House

Storm Water Detention Area

Standard Oil Spur #1

Standard Oil Spur #2

Tank Car Siding

MW-8 MW-16 MW-12 MW-11 MW-9 MW-22 MW-6 MW-18 MW-19 MW-3 MW-1 MW-4 MW-13 MW-17 MW-20 MW-10 MW-14 MW-21 MW-2 MW-15 MW-7 MW-5

D-6 D-2A D-7 D-1 D-5A D-3A D-4

TP-31 TP-30 TP-1 TP-32 TP-33 TP-34 TP-2 TP-36 TP-35 TP-3 TP-4 TP-5 TP-8 TP-9 TP-10 TP-11 TP-12 TP-13 TP-16 TP-49 TP-47 TP-48 TP-17 TP-6 TP-7 TP-19 TP-18 TP-22 TP-25 TP-14 TP-24 TP-23 TP-21 TP-20 TP-27 TP-28 TP-29 TP-58 TP-57 TP-55 TP-56 TP-54 TP-53 TP-52 TP-51 TP-50 TP-39 TP-38 TP-37 TP-45 TP-46 TP-44 TP-43 TP-42 TP-41 TP-40 TP-18 TP-19 TP-59 TP-60 TP-61 TP-62 TP-63 TP-64 TP-65 TP-66 TP-67 TP-68 TP-69 TP-70 TP-71 TP-72 TP-73 TP-74 TP-75 TP-76 TP-77 TP-78 TP-79 TP-80 TP-81 TP-82 TP-83

HB-5 HB-4 HB-6 HB-8 HB-7 HB-3 HB-2 HB-1

B-1 B-2 B-3

C-2 C-1 C-9 C-8 C-10 C-3 C-4 C-5 C-6 C-7

P-5 P-4 P-3 P-1 P-2

HH-14 HH-13 HH-12 HH-11 HH-10 HH-9 HH-7 HH-8 HH-5 HH-3 HH-6 HH-4 HH-1 HH-2

G:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921- (GIS-Graphics)\03.04.2024\Figure 3 - Hystorical Locations.mxd

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

- D-12 — Sand Aquifer Monitoring Well
- MW-25 — Perched Groundwater-bearing Unit Monitoring Well
- MW-6 — Abandoned/Destroyed Monitoring Well Location
- P-4 — Former Piezometer Location
- HH-1 — Hand Boring Location (1990)
- B-1 — Hand Boring for Biotreatment Feasibility Study (1992)
- TP-5 — Test Pit Location (1990)
- TP-1 — Test Pit Completed in Fill Aquifer (1992)

Inferred Fuel Hydrocarbons (based on Method A CUL exceedances and/or elevated PID concentrations)

- Diesel and Heavier
- Mixture of Diesel and Gasoline
- Primarily Gasoline

N

0 50 100 Feet

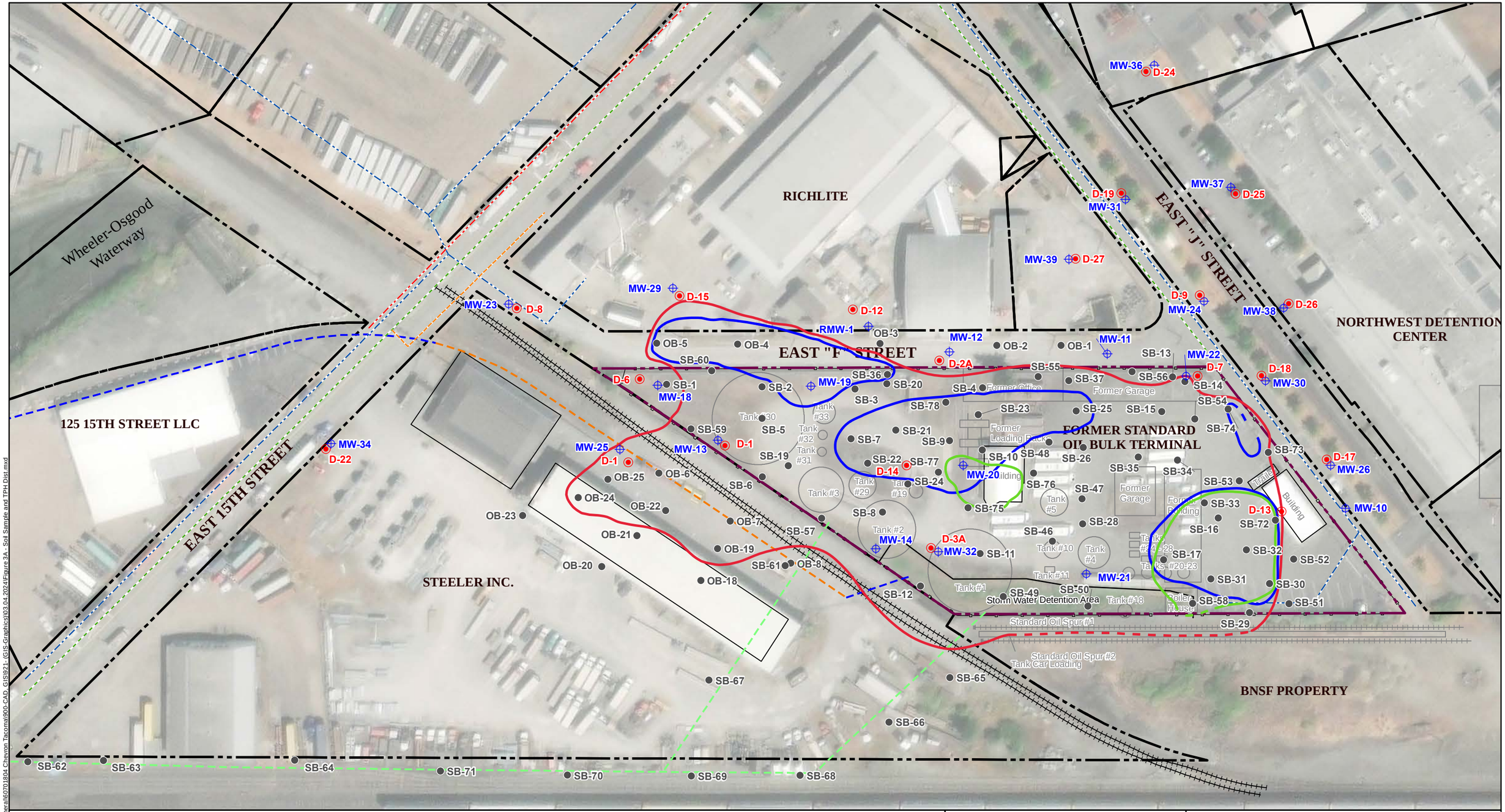
AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 3A
Previous Soil Sample/boring and Monitoring Well Locations (1984-2001) - Hydrocarbon Distribution in Soil

Date: March 2024

Project No.: 60701804



LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- D-12 Sand Aquifer Monitoring Well
- MW-25 Perched Groundwater-bearing Unit Monitoring Well
- OB-1 Soil Boring Location (2019-2021)
- SB-1 Completed Soil Boring Location (2010-2013)
- Gasoline-range Total Petroleum Hydrocarbons (dashed where inferred) Above Method A CULs
- Diesel-range Total Petroleum Hydrocarbons (dashed where inferred) Above Method A CULs
- Oil-range Total Petroleum Hydrocarbons (dashed where inferred) Above Method A CULs
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place
- Gas Line
- Overhead Line
- Sanitary Sewer Line
- Storm Sewer Line

Notes:
CUL = Cleanup Level

0 50 100 Feet

AECOM

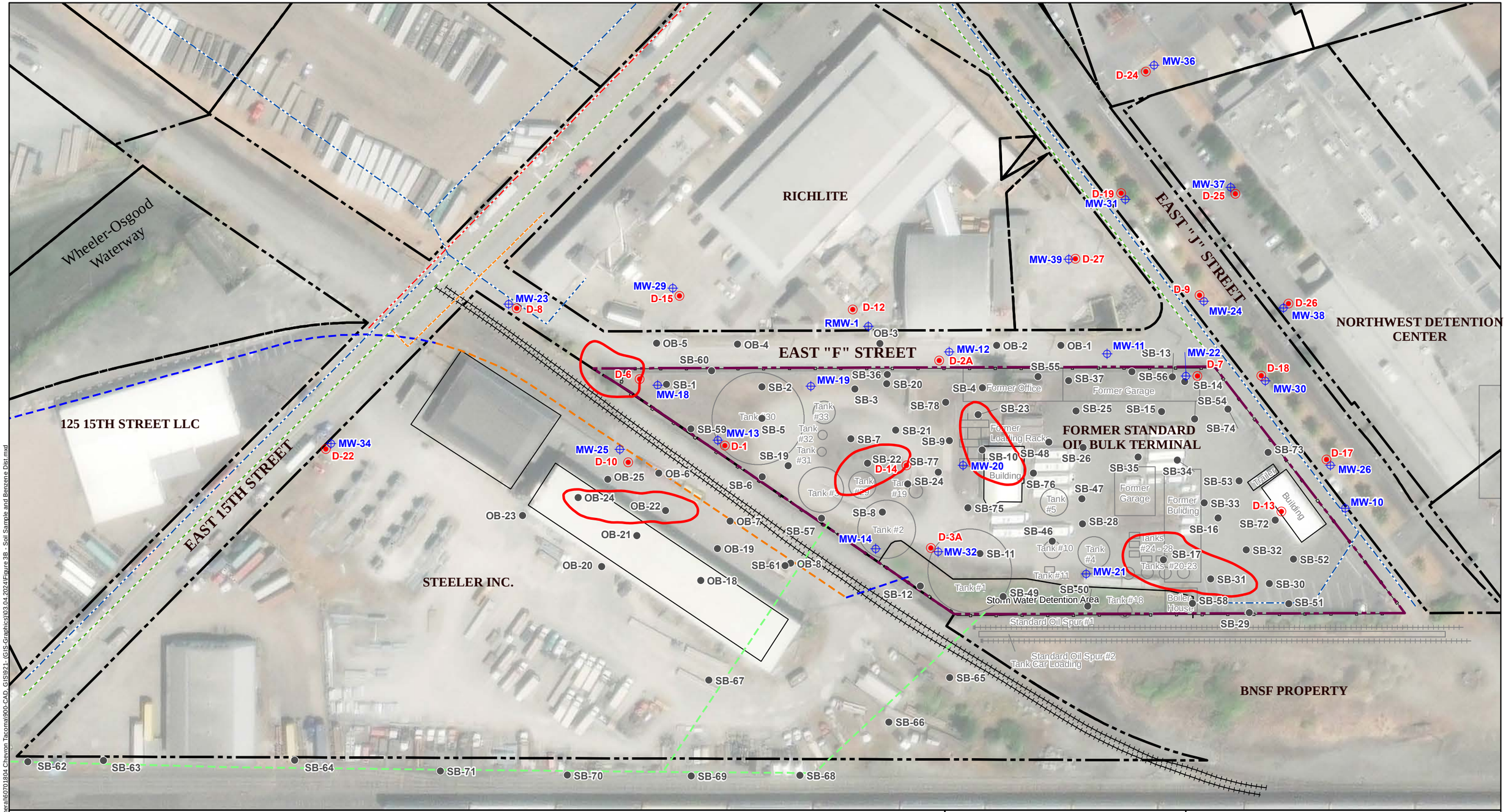
Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 3B
2010 - 2021 Soil Sample/Boring Locations and TPH Distribution

Date: April 2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921 - (GIS-Graphics)\03.04.2024\Figure 3A - Soil Sample and TPH Dist.mxd



C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921 - (GIS Graphics\03.04.2024\Figure 3B - Soil Sample and Benzene Dist.mxd

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- D-12 Sand Aquifer Monitoring Well
- MW-25 Perched Groundwater-bearing Unit Monitoring Well
- OB-1 Soil Boring Location (2019-2021)
- SB-1 Completed Soil Boring Location (2010-2013)
- Approximate extent of Benzene Above Method A CUL
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place
- Gas Line
- Overhead Line
- Sanitary Sewer Line
- Storm Sewer Line

Notes:
CUL = Cleanup Level

0 50 100 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 3C
2010 - 2021 Soil Sample/Boring Locations and Benzene Distribution

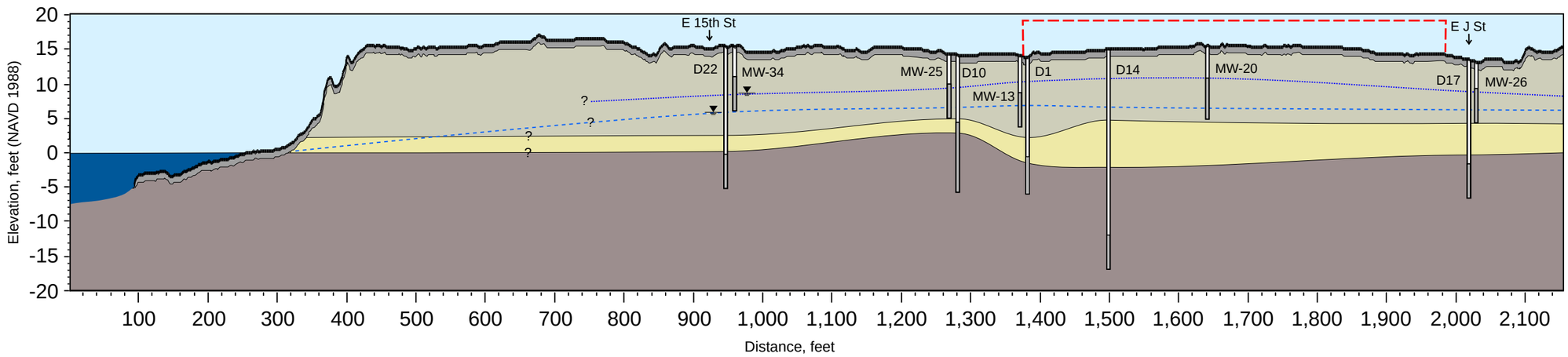
Date: April 2024

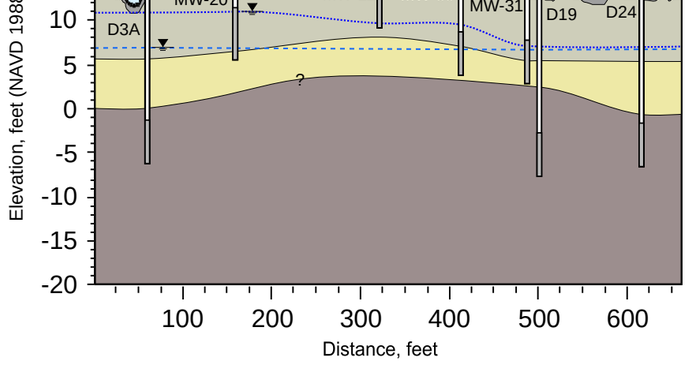
Project No.: 60701804

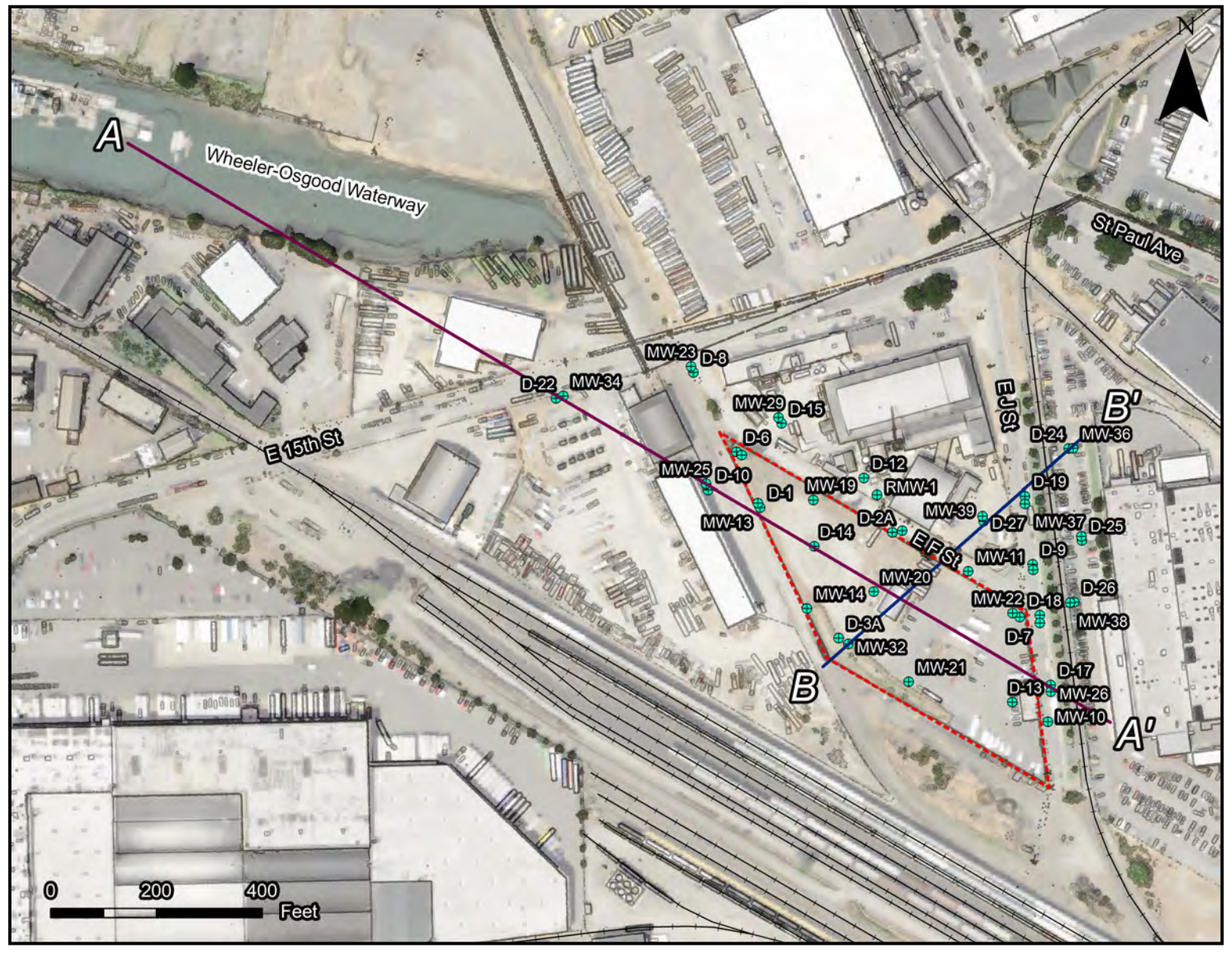
Geologic Cross Sections

Former Standard Oil Bulk Terminal/Chevron Facility
Number 1001348

1656 East J Street
Tacoma, Washington





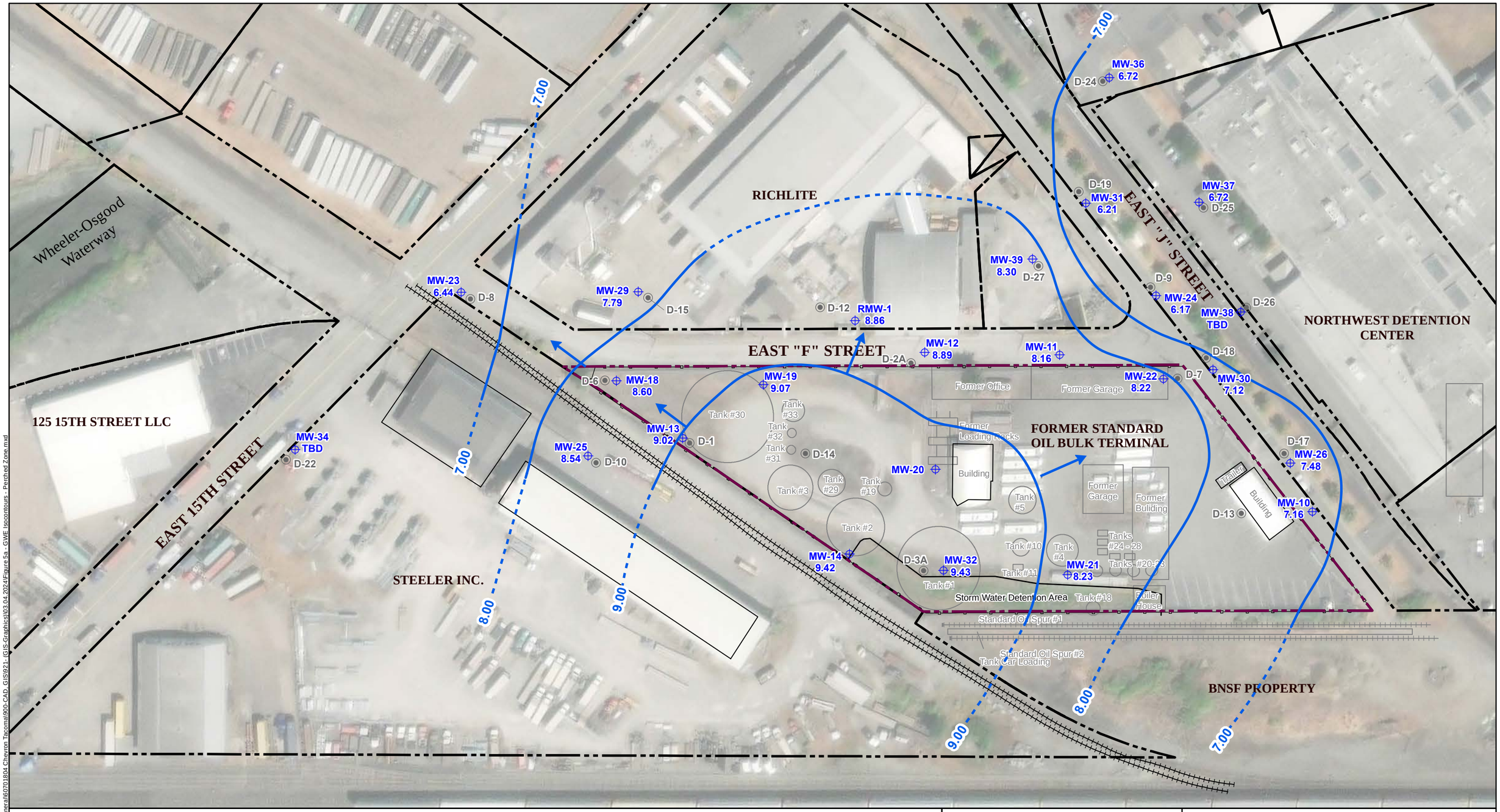


Legend

- Water.
- TOPSOIL and modern FILL
  Silty gravel excavation fill.
- SW/SP
  Fine to coarse sand with 5% silt.
- ML/OL
  Silt with trace plant debris. Tidal flat deposits.
- SP
  Fine to medium sand with 5% silt.
- Groundwater elevation, perched water-bearing unit (November 2023).
- Groundwater elevation, confined aquifer (November 2023).
- Monitoring wells.
- Property boundary.

AECOM

March 2024	Figure 4



LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

- D-12 — Sand Aquifer Monitoring Well
- MW-25 — Perched Groundwater-bearing Unit Monitoring Well
- 8.54 — Groundwater Elevation in feet below TOC - NAVD88 (Perched Groundwater-bearing Unit)
- Groundwater Flow Direction
- 7.00 — Groundwater Elevation Contour Line (Dashed Where Inferred)

TBD To be determined. TOC and Groundwater elevations will be measured at a later date.

TOC Top of Casing

NAVD88 North American Vertical Datum of 1988

0 50 100 Feet

AECOM

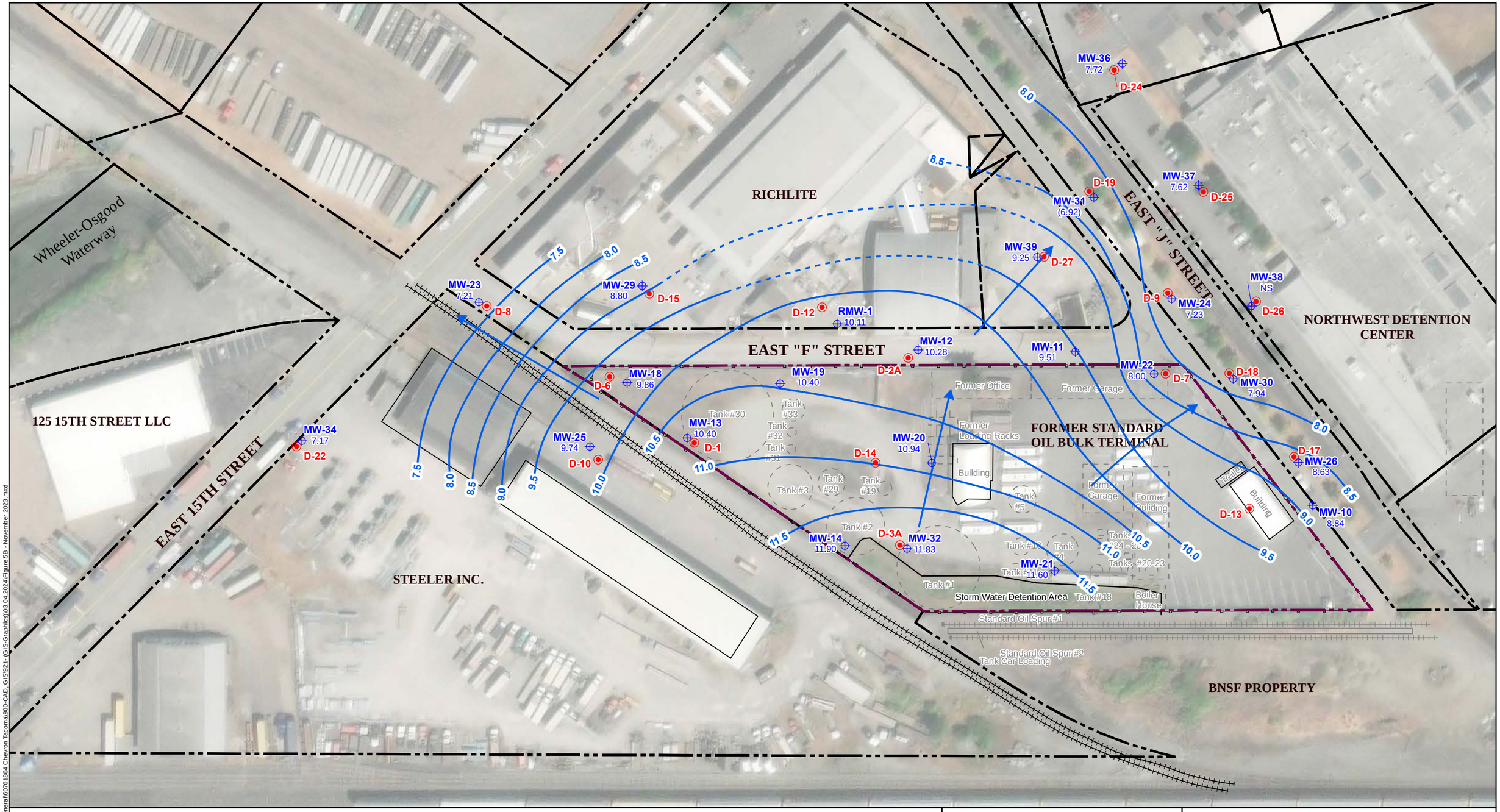
Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 5A
Groundwater Elevation Contours - Perched GWBU - August 7, 2023

Date: March 2024

Project No.: 60701804

C:\Users\Lazarin\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921-(GIS-Graphics)\03.04.2024\Figure 5a - GWE Isocontours - Perched Zone.mxd



LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

- D-12 — Deep Aquifer Monitoring Well
- MW-25 — Shallow Aquifer Monitoring Well
- 9.74 — Groundwater Elevation in feet NAVD88 (Perched Groundwater-bearing Unit)
- (6.92) — Groundwater Elevation in feet NAVD88 Excluded from Contour Lines
- NS — Not Surveyed

- Groundwater Elevation Contour in feet NAVD88 (Dashed where inferred)
- Approximate Groundwater Flow Direction
- Feet NAVD88 — North American Vertical Datum 88 feet

0 50 100 Feet

AECOM

Former Chevron Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 5B
Groundwater Elevation Contours - Perched GWBU - Fourth Quarter, November 13, 2023

Date: March 2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921-(GIS-Graphics)\03.04.2024\Figure 5B - November 2023.mxd

RICHLITE

Wheeler-Osgood Waterway

125 15TH STREET LLC

TEELER INC.

EAST "F" STREET

EAST "J" STREET

EAST 15TH STREET

NORTHWEST DETENTION CENTER

FORMER STANDARD OIL BULK TERMINAL

BNSF PROPERTY

MW-23 D-8 6.66
MW-29 D-15 6.55
D-12 6.54
RMW-1
MW-12
D-2A 6.87
MW-11
D-18 6.45
MW-30
MW-22
D-7 TBD
D-6 6.51
MW-18
MW-19
MW-13
D-1 TBD
MW-25
D-10 6.62
D-14 6.79
MW-20
MW-34
D-22 5.97
MW-14
D-3A 6.50
MW-32
MW-21
MW-39
D-27 6.52
D-19 6.43
MW-31
MW-36
D-24 6.46
MW-37
D-25 5.51
D-9 5.43
MW-24
D-26 TBD
MW-38
D-17 6.49
MW-26
D-13 TBD
MW-10

6.60
6.80
6.40
6.20
6.00

Former Office
Former Garage
Former Loading Racks
Building
Former Buliding
Trailer
Tank #30
Tank #33
Tank #32
Tank #31
Tank #3
Tank #29
Tank #19
Tank #2
Tank #5
Tank #10
Tank #4
Tanks #24 - 28
Tanks #20-23
Tank #11
Tank #1
Tank #18
Storm Water Detention Area
Boiler House
Standard Oil Spur #1
Standard Oil Spur #2
Tank Car Loading

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

D-12 — Sand Aquifer Monitoring Well

MW-25 — Perched Groundwater-bearing Unit Monitoring Well

6.54 — Groundwater Elevation in feet below TOC - NAVD88 (High-Tide Groundwater Elevation- Sand Aquifer)

Groundwater Flow Direction

6.80 — Groundwater Elevation Contour Line (Dashed Where Inferred)

TBD To be determined. Groundwater elevations will be measured at a later date.

TOC Top of Casing

NAVD88 North American Vertical Datum of 1988

0 50 100 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 5C
High-Tide Groundwater Elevation Contours - Sand Aquifer - October 16, 2023

Date: March 2024

Project No.: 60701804

C:\Users\Lazan\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921 - (GIS-Graphics)\03.04.2024\Figure 5c - High Tide GWE Sand Aquifer.mxd

RICHLITE

NORTHWEST DETENTION CENTER

125 15TH STREET LLC

STEELER INC.

BNSF PROPERTY

FORMER STANDARD OIL BULK TERMINAL

EAST "F" STREET

EAST "J" STREET

EAST 15TH STREET

Wheeler-Osgood Waterway

MW-23 D-8 6.17

MW-29 D-15 TBD

D-12 6.42

RMW-1

MW-18 D-6 TBD

MW-19

MW-13 D-1 TBD

MW-25 D-10 6.29

MW-34 D-22 5.92

D-14 TBD

MW-20

MW-12

D-2A 6.87

MW-11

Former Office

Former Garage

MW-22

D-18 6.58

MW-30

D-7 TBD

D-24 TBD

MW-36

D-19 6.51

MW-31

MW-37

D-25 TBD

MW-39 D-27 6.50

D-9 6.56

MW-24

MW-38

D-26 TBD

D-17 6.62

MW-26

MW-10

D-13 TBD

Trailer

Building

Former Loading Racks

Building

Former Garage

Former Buliding

Tanks #24 - 28

Tanks #20-23

Tank #30

Tank #33

Tank #32

Tank #31

Tank #3

Tank #29

Tank #19

Tank #2

Tank #5

Tank #10

Tank #4

Tank #1

Tank #18

MW-14

D-3A TBD

MW-32

MW-21

Storm Water Detention Area

Boiler House

Standard Oil Spur #1

Standard Oil Spur #2 Tank Car Loading

6.00

6.20

6.40

6.60

6.80

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

D-12 Sand Aquifer Monitoring Well

MW-25 Perched Groundwater-bearing Unit Monitoring Well

6.42 Groundwater Elevation in feet below TOC - NAVD88 (Low-Tide Groundwater Elevation- Sand Aquifer)

Groundwater Flow Direction

6.80 Groundwater Elevation Contour Line (Dashed Where Inferred)

TBD To be determined. Groundwater elevations will be measured at a later date.

TOC Top of Casing

NAVD88 North American Vertical Datum of 1988

N

0 50 100 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 5D
Low-Tide
Groundwater Elevation Contours - Sand Aquifer - October 16, 2023

Date: March 2024

Project No.: 60701804

C:\Users\Lazan\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921_(GIS-Graphics)\03.04.2024\Figure 5D - Low Tide GWE Sand Aquifer.mxd

RICHLITE

NORTHWEST DETENTION CENTER

125 15TH STREET LLC

STEELER INC.

BNSF PROPERTY

FORMER STANDARD OIL BULK TERMINAL

Wheeler-Osgood Waterway

EAST 15TH STREET

EAST "F" STREET

EAST "J" STREET

MW-36 D-24 7.04

D-19 7.06 MW-37 D-25 7.05

MW-31

MW-39 D-27 7.01

D-9 7.09 MW-38 D-26 NS

MW-24

RMW-1

D-12 6.92

MW-29 D-15 6.82

MW-23 D-8 6.66

MW-34 D-22 6.42

D-6 7.22

MW-12

D-2A 7.38

MW-11

D-7 7.48

D-18 7.11

MW-18

MW-19

MW-22

MW-30

MW-13 D-1 7.04

MW-25 D-10 6.77

D-14 6.81

MW-20

D-17 7.17

MW-26

D-13 7.84

MW-10

D-3A 7.07

MW-32

MW-14

MW-21

Former Office

Former Garage

Former Loading Racks

Building

Former Building

Tank #30

Tank #33

Tank #32

Tank #31

Tank #3

Tank #29

Tank #19

Tank #2

Tank #5

Tank #10

Tank #4

Tank #11

Tank #1

Tanks #24 - 28

Tanks #20-23

Storm Water Detention Area

Tank #18

Boiler House

Standard Oil Spur #1

Standard Oil Spur #2

Tank Car Loading

6.4 6.5 6.6 6.7 6.8 6.9 7.0 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- D-12 — Deep Aquifer Monitoring Well
- MW-25 — Shallow Aquifer Monitoring Well
- 6.92 — Groundwater Elevation in feet NAVD88 (Sand Aquifer)
- NS — Not Surveyed
- Groundwater Elevation Contour in feet NAVD88 (Dashed where inferred)
- Approximate Groundwater Flow Direction
- Feet NAVD88 — North American Vertical Datum 88 feet

Notes:
Gauging completed on November 13, 2023 between 8:30 am and 11:00 am
High tide registered at 5:21 am
Low tide registered at 10:41 am
(usharbors.com)

0 50 100 Feet

AECOM

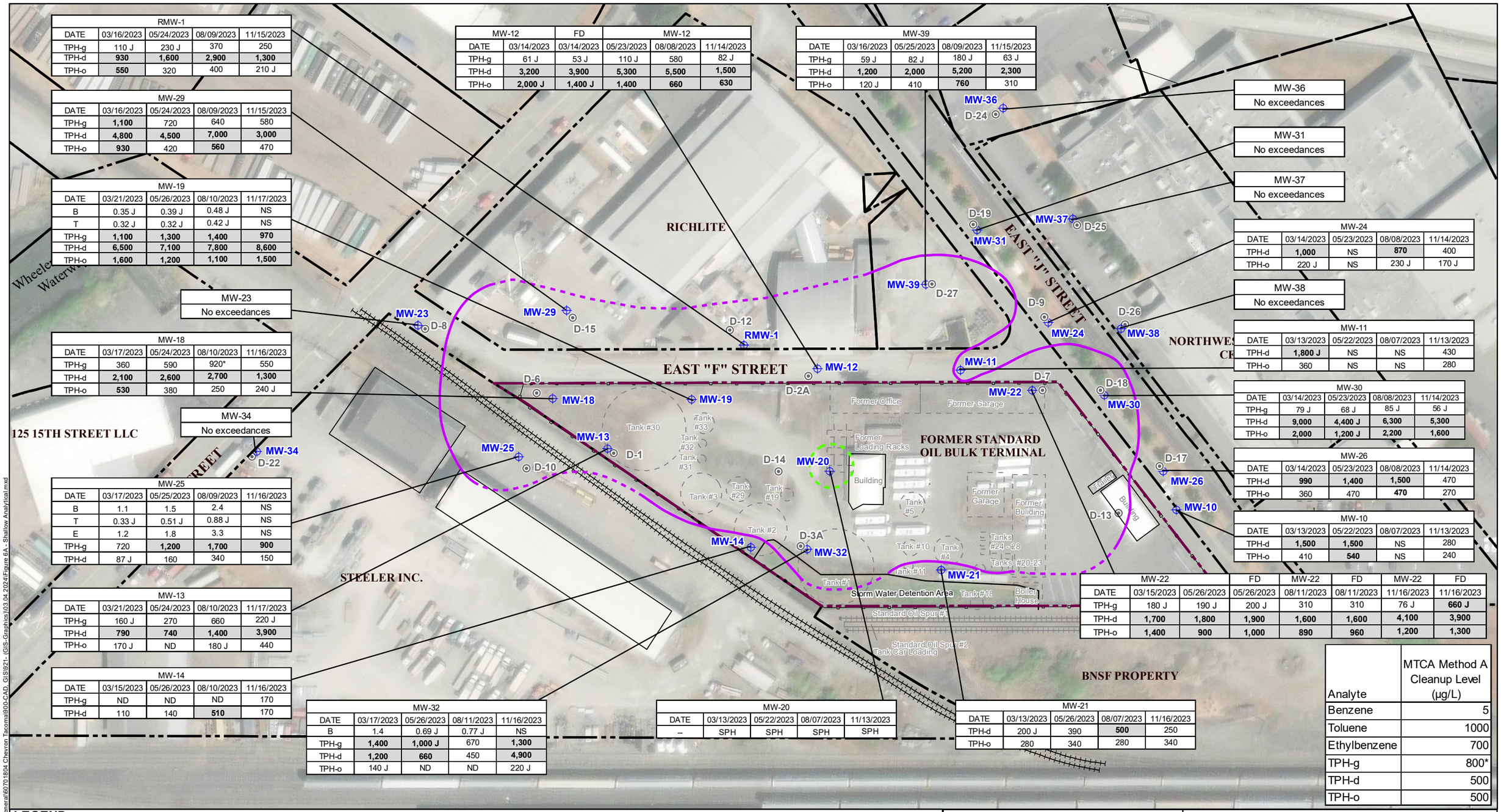
Former Chevron Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 5E
Groundwater Elevation Contours - Sand Aquifer - Fourth Quarter, November 13, 2023 (Low Tide Event)

Date: March 2024

Project No.: 60701804

G:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD_GIS\921 - (GIS-Graphics)\03.04.2024\Figure 5E - November 2023.mxd



RMW-1				
DATE	03/16/2023	05/24/2023	08/09/2023	11/15/2023
TPH-g	110 J	230 J	370	250
TPH-d	**930**	**1,600**	**2,900**	**1,300**
TPH-o	**550**	320	400	210 J

MW-29				
DATE	03/16/2023	05/24/2023	08/09/2023	11/15/2023
TPH-g	**1,100**	720	640	580
TPH-d	**4,800**	**4,500**	**7,000**	**3,000**
TPH-o	**930**	420	**560**	470

MW-19				
DATE	03/21/2023	05/26/2023	08/10/2023	11/17/2023
B	0.35 J	0.39 J	0.48 J	NS
T	0.32 J	0.32 J	0.42 J	NS
TPH-g	**1,100**	**1,300**	**1,400**	**970**
TPH-d	**6,500**	**7,100**	**7,800**	**8,600**
TPH-o	**1,600**	**1,200**	**1,100**	**1,500**

MW-23
No exceedances

MW-18				
DATE	03/17/2023	05/24/2023	08/10/2023	11/16/2023
TPH-g	360	590	920*	550
TPH-d	**2,100**	**2,600**	**2,700**	**1,300**
TPH-o	**530**	380	250	240 J

MW-34
No exceedances

MW-25				
DATE	03/17/2023	05/25/2023	08/09/2023	11/16/2023
B	1.1	1.5	2.4	NS
T	0.33 J	0.51 J	0.88 J	NS
E	1.2	1.8	3.3	NS
TPH-g	720	**1,200**	**1,700**	**900**
TPH-d	87 J	160	340	150

MW-13				
DATE	03/21/2023	05/24/2023	08/10/2023	11/17/2023
TPH-g	160 J	270	660	220 J
TPH-d	**790**	**740**	**1,400**	**3,900**
TPH-o	170 J	ND	180 J	440

MW-14				
DATE	03/15/2023	05/26/2023	08/10/2023	11/16/2023
TPH-g	ND	ND	ND	170
TPH-d	110	140	**510**	170

MW-12		FD	MW-12		
DATE	03/14/2023	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-g	61 J	53 J	110 J	580	82 J
TPH-d	**3,200**	**3,900**	**5,300**	**5,500**	**1,500**
TPH-o	**2,000 J**	**1,400 J**	**1,400**	**660**	**630**

MW-39				
DATE	03/16/2023	05/25/2023	08/09/2023	11/15/2023
TPH-g	59 J	82 J	180 J	63 J
TPH-d	**1,200**	**2,000**	**5,200**	**2,300**
TPH-o	120 J	410	**760**	310

MW-36
No exceedances

MW-31
No exceedances

MW-37
No exceedances

MW-24				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	**1,000**	NS	**870**	400
TPH-o	220 J	NS	230 J	170 J

MW-38
No exceedances

MW-11				
DATE	03/13/2023	05/22/2023	08/07/2023	11/13/2023
TPH-d	**1,800 J**	NS	NS	430
TPH-o	360	NS	NS	280

MW-30				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-g	79 J	68 J	85 J	56 J
TPH-d	**9,000**	**4,400 J**	**6,300**	**5,300**
TPH-o	**2,000**	**1,200 J**	**2,200**	**1,600**

MW-26				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	**990**	**1,400**	**1,500**	470
TPH-o	360	470	**470**	270

MW-10				
DATE	03/13/2023	05/22/2023	08/07/2023	11/13/2023
TPH-d	**1,500**	**1,500**	NS	280
TPH-o	410	**540**	NS	240

MW-22			FD	MW-22		FD	MW-22	FD
DATE	03/15/2023	05/26/2023	05/26/2023	08/11/2023	08/11/2023	11/16/2023	11/16/2023	11/16/2023
TPH-g	180 J	190 J	200 J	310	310	76 J	**660 J**	
TPH-d	**1,700**	**1,800**	**1,900**	**1,600**	**1,600**	**4,100**	**3,900**	
TPH-o	**1,400**	**900**	**1,000**	**890**	**960**	**1,200**	**1,300**	

MW-32				
DATE	03/17/2023	05/26/2023	08/11/2023	11/16/2023
B	1.4	0.69 J	0.77 J	NS
TPH-g	**1,400**	**1,000 J**	670	**1,300**
TPH-d	**1,200**	**660**	450	**4,900**
TPH-o	140 J	ND	ND	220 J

MW-20				
DATE	03/13/2023	05/22/2023	08/07/2023	11/13/2023
–	SPH	SPH	SPH	SPH

MW-21				
DATE	03/13/2023	05/26/2023	08/07/2023	11/16/2023
TPH-d	200 J	390	**500**	250
TPH-o	280	340	280	340

Analyte	MTCA Method A Cleanup Level (µg/L)
Benzene	5
Toluene	1000
Ethylbenzene	700
TPH-g	800*
TPH-d	500
TPH-o	500

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- TPH MTCA Method A Cleanup Level Exceedance Contour - Based on Q4 Results (dashed where inferred)
- Inferred SPH Area (0.01 to 0.05' thickness)

D-12 Sand Aquifer Monitoring Well

MW-25 Perched Groundwater-bearing Unit Monitoring Well

FD = Field duplicate
J = The analyte was positively identified; however, the reported sample concentration is estimated.
SPH = separate-phase hydrocarbon
NS = Not Sampled - insufficient water for sample collection
ND = Not detected
B = Benzene; T = Toluene; E = Ethylbenzene
TPH-g = Gasoline-range Total Petroleum Hydrocarbons
TPH-d = Diesel-range Total Petroleum Hydrocarbons
TPH-o = Oil-range Total Petroleum Hydrocarbons

Notes:
1. All concentrations are µg/L (micrograms per liter). Concentrations shown in **BOLD** and highlighted are above MTCA Method A Cleanup Levels.
2.*Two TPH-g cleanup levels exist in MTCA Method A Cleanup Levels. The more conservative cleanup level of 800 µg/L, for use when benzene is detected, is presented on this table. When benzene is not detected, the TPH-g cleanup levels is 1000 µg/L.

0 55 110 Feet

AECOM

Former Chevron Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 6A
2023 Groundwater Analytical Data - Perched Groundwater Bearing Unit

Date: April 2024

Project No.: 60701804

C:\Users\LLazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921- (GIS-Graphics)\03.04.2024\Figure 6A - Shallow Analytical.mxd

D-2A				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	**1,400**	**1,400**	**1,200**	**1,200**
TPH-o	**580**	**520**	390	**540**

D-27				
DATE	03/15/2023	05/25/2023	08/09/2023	11/15/2023
TPH-d	**1,900**	**2,000**	**1,700**	**1,300**
TPH-o	**800**	**560**	410	360

D-12
No exceedances

D-15				
DATE	03/16/2023	05/24/2023	08/09/2023	11/15/2023
TPH-d	**2,000**	**1,900**	**1,400**	**1,300**
TPH-o	**500**	**800**	270	260

D-8				
DATE	03/14/2023	05/26/2023	08/11/2023	11/14/2023
TPH-g	ND	ND	62 J	50 J
TPH-d	**1,700**	**920**	**1,200**	**1,100**
TPH-o	440	230 J	290	360

D-6				
DATE	03/17/2023	05/24/2023	08/10/2023	11/16/2023
TPH-g	200 J	210 J	260	250
TPH-d	**3,300**	**2.100 J**	**3,500**	**2,600**
TPH-o	420	220 J	410	280

D-22				
DATE	03/17/2023	05/25/2023	08/09/2023	11/16/2023
TPH-d	89 J	230	330	500

D-10				
DATE	03/17/2023	05/25/2023	08/09/2023	11/16/2023
TPH-g	43 J	43 J	110 J	93 J
TPH-d	**870**	**1,200**	**2,200**	**1,900**
TPH-o	150 J	190 J	230 J	190 J

D-1		FD	D-1	FD	D-1	FD	D-1	FD
DATE	03/21/2023	03/21/2023	05/24/2023	05/24/2023	08/11/2023	08/11/2023	11/17/2023	11/17/2023
TPH-g	190 J	180 J	180 J	180 J	200 J	220 J	ND	ND
TPH-d	**4,600**	**4,800**	**4,200**	**4,400**	**3,400**	**3,300**	**4,300**	**4,500**
TPH-o	**720**	**730**	**650**	**620**	380	440	**780**	**850**

D-14
(screened 29-32 ft bgs to assess vertical migration)
No exceedances

D-3A				
DATE	03/17/2023	05/26/2023	08/11/2023	11/16/2023
TPH-g	74 J	ND	59 J	49 J
TPH-d	**3,000**	**1,900**	**1,500**	**1,100**
TPH-o	**730**	460	**520**	290

D-24
No exceedances

D-19				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	420	**610**	380	410
TPH-o	160 J	180 J	130 J	140 J

D-25				
DATE	03/15/2023	05/25/2023	08/10/2023	11/15/2023
TPH-d	**960**	**1,200**	**900**	**1,200**
TPH-o	360	380	280	420

D-9				
DATE	03/15/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	**2,400**	**1,700**	**2,300**	**2,400**
TPH-o	**1,100**	**520**	**2,000**	**1,100**

D-26
No exceedances

D-18				
DATE	03/14/2023	05/23/2023	08/08/2023	11/14/2023
TPH-d	500	**650**	**870**	**640**
TPH-o	300	200 J	300	320

D-7
No exceedances

D-17
No exceedances

D-13				
DATE	03/13/2023	05/22/2023	08/07/2023	11/13/2023
--	SPH	SPH	SPH	SPH

Analyte	MTCA Method A Cleanup Level (µg/L)
TPH-g	800*
TPH-d	500
TPH-o	500

RICHLITE
EAST "F" STREET
EAST "J" STREET
125 15TH STREET LLC
STEELER INC.
NORTHWEST DETENTION CENTER
FORMER STANDARD OIL BULK TERMINAL
BNSF PROPERTY
Former Office
Former Garage
Former Loading Racks
Building
Former Building
Tanks #24 - 28
Tanks #20-23
Storm Water Detention Area
Boiler House
Standard Oil Spur #1
Tank #1
Tank #2
Tank #3
Tank #4
Tank #5
Tank #10
Tank #11
Tank #19
Tank #29
Tank #30
Tank #31
Tank #32
Tank #33
MW-10
MW-11
MW-12
MW-13
MW-18
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
MW-25
MW-26
MW-29
MW-30
MW-31
MW-32
MW-34
MW-36
MW-37
MW-38
MW-39
RMW-1
D-1
D-2A
D-3A
D-6
D-7
D-8
D-9
D-10
D-12
D-13
D-14
D-15
D-17
D-18
D-19
D-22
D-24
D-25
D-26
D-27

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary
- TPH MTCA Method A Cleanup Level Exceedance Contour Based on Q4 Results (dashed where inferred)
- Inferred SPH Area (0.01 to 0.5' thickness)
- D-12 — Sand Aquifer Monitoring Well Location
- MW-25 — Perched Groundwater-bearing Unit Monitoring Well Location

FD = Field duplicate
J = The analyte was positively identified; however, the reported sample concentration is estimated.
ND = Not detected
SPH = separate-phase hydrocarbon
TPH-g = Gasoline-range Total Petroleum Hydrocarbons
TPH-d = Diesel-range Total Petroleum Hydrocarbons
TPH-o = Oil-range Total Petroleum Hydrocarbons

Notes:
1. All concentrations are µg/L (micrograms per liter). Concentrations shown in **BOLD** and highlighted are above MTCA Method A Cleanup Levels.

0 50 100 Feet

AECOM

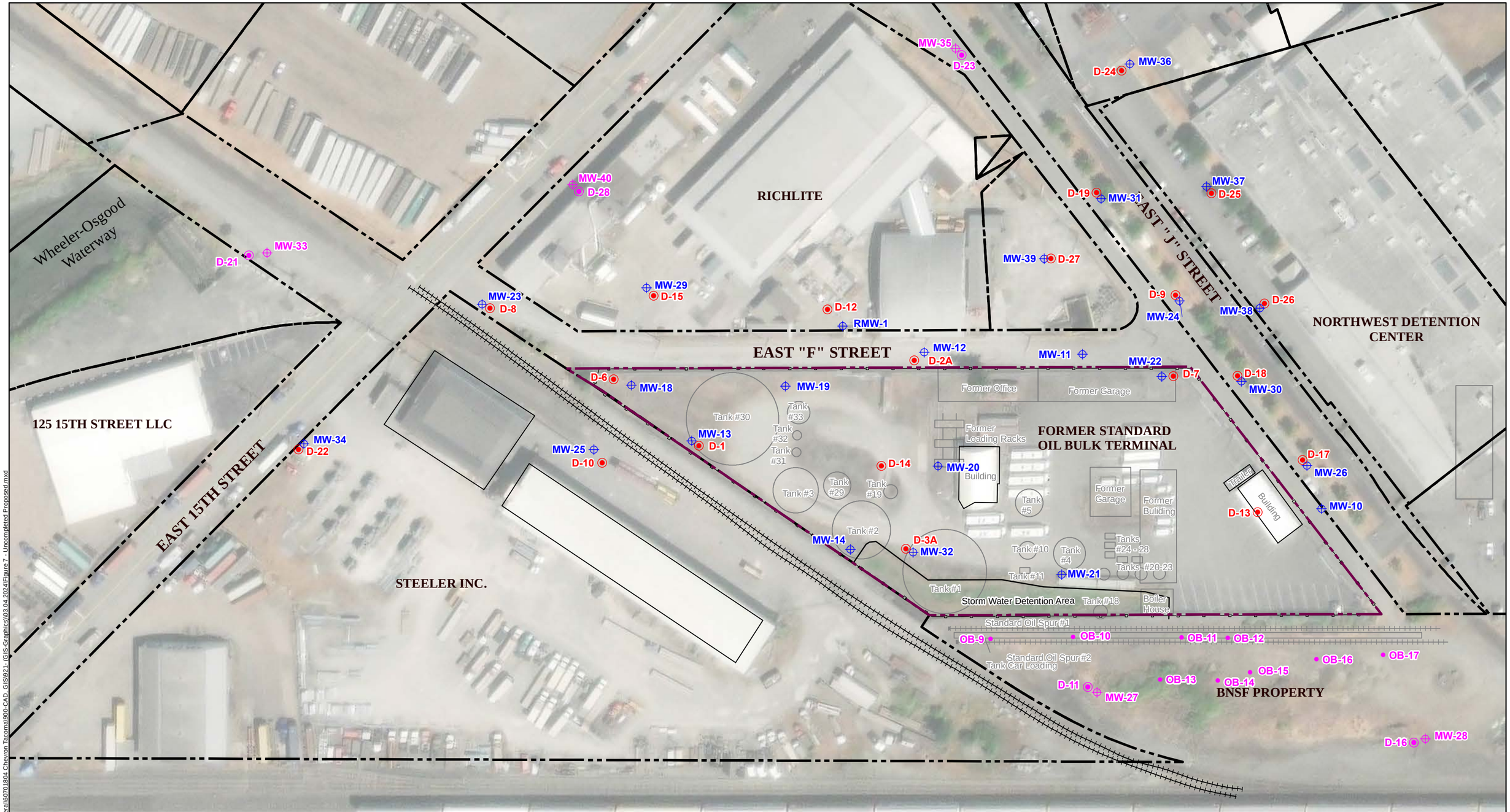
Former Chevron Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 6B
2023 Groundwater Analytical Data – Sand Aquifer

Date: April 2024

Project No.: 60701804

C:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900CAD_GIS\921_GIS-Graphics\03.04.2024\Figure 6b - Deep Analytical.mxd



LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Property Boundary

Note :
Utilities approximate based on 2016 Historic Figure

- D-12 — Sand Aquifer Monitoring Well
- MW-25 — Perched Groundwater-bearing Unit Monitoring Well
- MW-33 — Proposed Shallow Aquifer Monitoring Well Location
- D-21 — Proposed Deep Aquifer Monitoring Well Location
- OB-10 — Proposed Soil Boring Location

N

0 50 100 Feet

AECOM

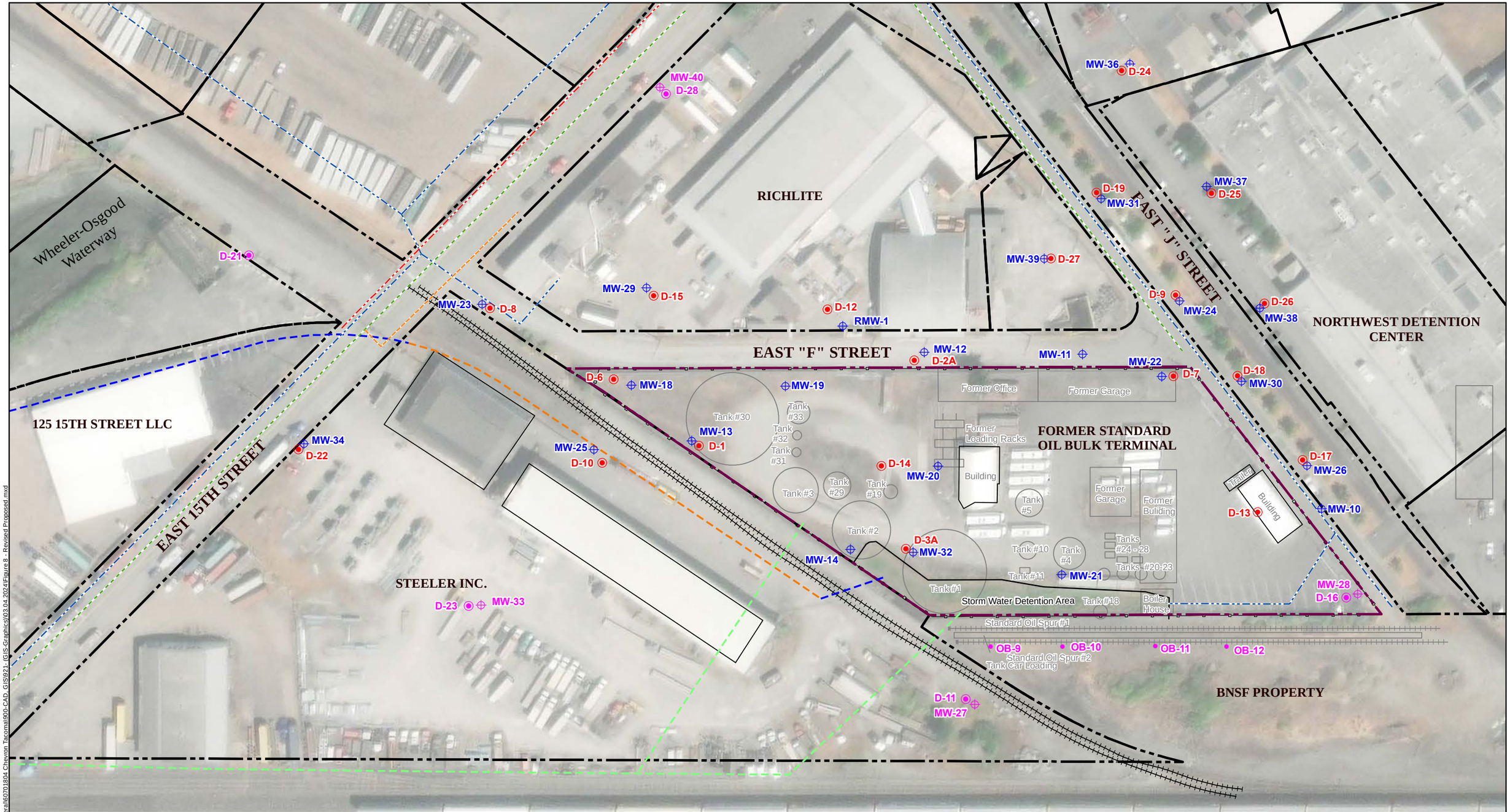
Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 7
Leidos July 2020 Work Plan Uncompleted Proposed Additional Monitoring Well and Soil Boring Locations

Date: March 2024

Project No.: 60701804

C:\Users\Lazat\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921 - (GIS Graphics)\03.04.2024\Figure 7 - Uncompleted Proposed.mxd



G:\Users\Lazar\AECOM\Chevron - Legacy PNW - General\60701804 Chevron Tacoma\900-CAD, GIS\921- (GIS-Graphics)\03.04.2024\Figure 8 - Revised Proposed.mxd

LEGEND

- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Parcel Boundary
- Parcel Boundary

Note :
Utilities approximate based on 2016 Historic Figure

- D-12 — Sand Aquifer Monitoring Well
- MW-25 — Perched Groundwater-bearing Unit Monitoring Well
- MW-33 — Proposed Shallow Aquifer Monitoring Well Location
- D-21 — Proposed Deep Aquifer Monitoring Well Location
- OB-10 — Proposed Soil Boring Location

- Gas Line
- Overhead Line
- Sanitary Sewer Line
- Storm Sewer Line
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place

0 50 100 Feet

AECOM

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 8
AECOM 2024 Revised Proposed Additional Monitoring Well and Soil Boring Locations

Date: March 2024

Project No.: 60701804

Tables

Table 1
Groundwater Monitoring Program
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Location	TOC Elevation (feet, NAVD88)	Well Screen Interval (feet, bgs)	Well Screen Interval Elevation (feet, NAVD88)	Measured Depth to Bottom[a] (feet, BTOC)	Depth to SPH/ Groundwater	Analytical Constituents Method			
							TPH-g NWTPH-Gx	TPH-d NWTPH-Dx	TPH-o NWTPH-Dx	BTEX/MTBE EPA 8260D
Perched Groundwater-bearing Unit Wells										
MW-10	East J Street, south end	13.31	2.50 - 8.07	10.81 - 5.24	7.60[b]	X	X	X	X	X
MW-11	East F Street, east side	14.99	2.50 - 7.22	12.49 - 7.77	6.95[b]	X	X	X	X	X
MW-12	East F Street, middle	15.05	2.50 - 8.28	12.55 - 6.77	7.98[b]	X	X	X	X	X
MW-13	Along NW Property boundary	16.83	6.00 - 11.00	10.83 - 5.83	11.15[b]	X	X	X	X	X
MW-14	Along SW Property boundary	17.61	3.50 - 8.80	14.11 - 8.81	12.22[b]	X	X	X	X	X
MW-18	NW corner of property	18.20	3.00 - 9.00	15.20 - 9.20	10.48[b]	X	X	X	X	X
MW-19	Along northern Property line	15.46	3.00 - 9.00	12.46 - 6.46	9.58	X	X	X	X	X
MW-20	Middle of Property	15.01	3.00 - 9.00	12.01 - 6.01	9.00[c]	X	X	X	X	X
MW-21	Southern end of Property	14.60	3.00 - 9.00	11.60 - 5.60	9.22[b]	X	X	X	X	X
MW-22	NE corner of Property	14.67	3.00 - 8.00	11.67 - 6.67	7.75	X	X	X	X	X
MW-23	Intersection of 15th and F	13.50	4.00 - 9.00	9.50 - 4.50	8.90	X	X	X	X	X
MW-24	East J Street, N of property	13.15	4.00 - 9.00	9.15 - 4.15	10.08[b]	X	X	X	X	X
MW-25	Across RR west of property	14.08	5.00 - 10.00	9.08 - 4.08	10.22	X	X	X	X	X
MW-26	East J Street, south end	12.70	4.00 - 9.00	8.70 - 3.70	9.25[b]	X	X	X	X	X
MW-29	Richlite property, SW corner	14.78	4.00 - 9.00	10.78 - 5.78	9.24	X	X	X	X	X
MW-30	E from NE property corner	13.07	4.00 - 9.00	9.07 - 4.07	9.00	X	X	X	X	X
MW-31	East J Street, north end	13.09	4.00 - 9.00	9.09 - 4.09	9.18[b]	X	X	X	X	X
MW-32	SW Property corner	13.82	TBD	TBD	9.13	X	X	X	X	X
MW-34	South on East 15th Street	TBD	TBD	TBD	12.70	X	X	X	X	X
MW-36	NW from NWDC	13.52	TBD	TBD	9.51	X	X	X	X	X
MW-37	NW corner of NWDC	14.54	TBD	TBD	9.90	X	X	X	X	X
MW-38	West boundary of NWDC	TBD	TBD	TBD	9.86	X	X	X	X	X
MW-39	Richlite property, SE corner	15.00	5.00 - 10.00	10.00 - 5.00	9.93	X	X	X	X	X
RMW-1	Southern boundary of Richlite	14.97	TBD	TBD	9.85	X	X	X	X	X
Sand Aquifer Wells										
D-1	NW Property boundary	17.26	15.00 - 20.00	2.26 - (-2.74)	21.35[b]	X	X	X	X	X
D-2A	East F, along property boundar	15.16	15.00 - 20.00	0.16 - (-4.84)	19.53[b]	X	X	X	X	X
D-3A	SW Property corner	14.12	15.00 - 20.00	(-0.88) - (-5.88)	20.25	X	X	X	X	X
D-6	NW corner of Property	18.23	15.00 - 20.00	3.23 - (-1.77)	22.50[b]	X	X	X	X	X
D-7	NE corner of Property	14.82	15.00 - 20.00	(-0.18) - (-5.18)	20.00	X	X	X	X	X
D-8	Intersection of 15th and F	13.73	17.00 - 22.00	(-3.27) - (-8.27)	21.77	X	X	X	X	X
D-9	Intersection of F and J	12.90	15.00 - 20.00	(-2.10) - (-7.10)	19.98	X	X	X	X	X
D-10	Across RR west of property	14.03	14.00 - 24.00	(0.03) - (-9.97)	24.50	X	X	X	X	X
D-12	Southern boundary of Richlite	14.85	24.00 - 29.00	(-9.15) - (-14.15)	28.28	X	X	X	X	X
D-13	East side of Property	13.84	14.00 - 19.00 (*)	(-0.16) - (-5.16)	19.89	X	X	X	X	X
D-14	West from property center	14.82	29.00 - 32.00	(-14.18) - (-17.1	31.56[b]	X	X	X	X	X
D-15	Richlite property, SW corner	14.80	16.00 - 21.00	(-1.20) - (-6.20)	20.82	X	X	X	X	X
D-17	East J Street, south end	12.75	14.00 - 19.00	(-1.25) - (-6.25)	18.86	X	X	X	X	X
D-18	E from NE property corner	13.29	14.00 - 19.00	(-0.71) - (-5.71)	18.87	X	X	X	X	X
D-19	East J Street, north end	13.22	17.00 - 22.00	(-3.78) - (-8.78)	21.99	X	X	X	X	X
D-22	South on East 15th Street	15.39	15.00 - 20.00	0.39 - (-4.61)	20.19	X	X	X	X	X
D-24	NW from NWDC	13.53	15.00 - 20.00	(-1.47) - (-6.47)	19.71[b]	X	X	X	X	X
D-25	NW corner of NWDC	14.65	TBD	TBD	19.90	X	X	X	X	X
D-26	West boundary of NWDC	TBD	TBD	TBD	19.89	X	X	X	X	X
D-27	Richlite property, SE corner	14.99	TBD	TBD	19.85	X	X	X	X	X

Notes:

Sampling completed on a quarterly basis unless otherwise noted. Monitoring wells with detectable SPH at the time of gauging will not be sampled.

-- = Not measured/ not sampled.

[a] Depth to bottom measured during the first quarter 2023 sampling event, unless noted otherwise.

[b] Depth to bottom measured after well re-development in August 2023.

[c] Depth to bottom reported from historical boring/well construction logs.

X = Collect measurement / collect sample.

bgs = below ground surface

BTEX = benzene, toluene, ethylbenzene, and xylenes

BTOC = below top of casing

EPA = United States Environmental Protection Agency

ID = identification

MTBE = Methyl tert-Butyl Ether

NAVD 88 = North American Vertical Datum of 1988; negative value = below sea level

NWTPH-DX = Northwest - Semi-Volatile Petroleum Products Method

NWTPH-GX = Northwest - Volatile Petroleum Products Method

TBD = To be determined

TOC = top of casing

TPH-d = diesel-range total petroleum hydrocarbons

TPH-g = gasoline-range total petroleum hydrocarbons

TPH-o = oil-range total petroleum hydrocarbons

Property = Former Chevron Bulk Terminal

Table 2
Fourth Quarter and Cumulative 2023 Gauging and Groundwater Analytical Data
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Sample ID	Date	TOC Elevation** (ft, NAVD88)	Depth to SPH (ft btoc)	SPH Thickness (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft, NAVD88)	Volatile Organic Compounds (VOCs)					Total Petroleum Hydrocarbons (TPH)							
								Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	TPH-g	TPH-d	TPH-d (w/ Silica gel)	TPH-o	TPH-o (w/ Silica gel)	TPH-d + TPH-o	Diesel + Oil Petroleum Contamination (w/ silica gel)	Polar Organic Concentration[d] ((D+O)-silica gel)
MTCA Method A Cleanup Levels[a] (µg/L)								5	1000	700	1000	20	800[b]	500		500		500	500	500
Perched Groundwater-bearing Unit Wells																				
MW-10	MW-10-W-230313	03/13/2023	13.31	ND	0.00	4.19	9.12	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,500**	NA	410	NA	**1,910**	NA	NA
	MW-10-W-230522	05/22/2023		ND	0.00	4.64	8.67	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**1,500**	NA	**540**	NA	**2,040**	NA	NA
	N/A	08/07/2023		ND	0.00	6.15	7.16	Insufficient water to sample												
	MW-10-W-231113	11/13/2023		ND	0.00	4.47	8.84	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	280	< 46 UJ	240	< 100 UJ	**520**	<146 UJ	374 UJ
MW-11	MW-11-W-230313	03/13/2023	15.10	ND	0.00	5.13	9.97	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	43 UJ	**1,800 J**	NA	360	NA	**2,160 J**	NA	NA
	MW-11-W-230522	05/22/2023		ND	0.00	5.47	9.63	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	NA	NA	NA	NA	NA	NA	NA
	N/A	08/07/2023		ND	0.00	6.83	8.27	Insufficient water to sample												
	MW-11-W-231114	11/14/2023	14.99	ND	0.00	5.48	9.51	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	430	< 46 UJ	280	< 100 UJ	**710**	<146 UJ	**637**
MW-12	MW-12-W-230314	03/14/2023	NS	ND	0.00	4.52	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	61 J	**3,200**	NA	**2,000 J**	NA	**5,200 J**	NA	NA
	DUP-2-WD-230314							< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	53 J	**3,900**	NA	**1,400 J**	NA	**5,300 J**	NA	NA
	MW-12-W-230523	05/23/2023		ND	0.00	5.09	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	110 J	**5,300**	NA	**1,400**	NA	**6,700**	NA	NA
	MW-12-W-230808	08/08/2023		ND	0.00	6.16	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	580	**5,500**	< 47	**660**	< 100	**6,160**	<147	**6,087**
	MW-12-W-231114	11/14/2023	15.05	ND	0.00	4.77	10.28	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	82 J	**1,500**	< 46	**630**	< 100	**2,130**	<146	**1,984**
MW-13	MW-13-W-230321	03/21/2023	16.88	ND	0.00	6.20	10.68	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	160 J	**790**	NA	170 J	NA	**960 J**	NA	NA
	MW-13-W-230524	05/24/2023		ND	0.00	6.69	10.19	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	270	**740**	NA	< 110	NA	**<850**	NA	NA
	MW-13-W-230810	08/10/2023		ND	0.00	7.81	9.07	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	660	**1,400**	72 J	180 J	250 U	**1,580 J**	322 J/U	**1419**
	MW-13-W-231117	11/17/2023	16.83	ND	0.00	6.43	10.40	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	220 J	**3,900**	< 46 UJ	440	< 100 UJ	**4,340**	<146 UJ	**4267**
MW-14	MW-14-W-230315	03/15/2023	17.64	ND	0.00	5.66	11.98	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	110	NA	< 100	NA	<210	NA	NA
	MW-14-W-230526	05/26/2023		ND	0.00	6.84	10.80	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	< 43	140	NA	< 100	NA	<240	NA	NA
	MW-14-W-230810	08/10/2023		ND	0.00	8.19	9.45	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**510**	77 J	130 J	250 U	**640**	327 J/U	477
	MW-14-W-231116	11/16/2023	17.61	ND	0.00	5.71	11.90	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	170 J	< 46	< 100	< 100	<270 J	<146	<270
MW-18	MW-18-W-230317	03/17/2023	18.25	ND	0.00	8.23	10.02	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	360	**2,100**	NA	**530**	NA	**2,630**	NA	NA
	MW-18-W-230524	05/24/2023		ND	0.00	8.66	9.59	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	590	**2,600**	NA	380	NA	**2,980**	NA	NA
	MW-18-W-230810	08/10/2023		ND	0.00	9.60	8.65	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	**920[b]**	**2,700**	120	250	< 100	**2,950**	220	**2,730**
	MW-18-W-231116	11/16/2023	18.20	ND	0.00	8.34	9.86	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	550	**1,300**	59 J	240 J	< 100	**1,540 J**	159 J	**1,381**
MW-19	MW-19-W-230321	03/21/2023	15.53	ND	0.00	4.85	10.68	0.35 J	0.32 J	< 0.40	< 1.4	< 0.20	**1,100**	**6,500**	NA	**1,600**	NA	**8,100**	NA	NA
	MW-19-W-230526	05/26/2023		ND	0.00	5.27	10.26	0.39 J	0.32 J	< 0.40	1.4 J	< 0.20 UJ	**1,300**	**7,100**	NA	**1,200**	NA	**8,300**	NA	NA
	MW-19-W-230810	08/10/2023		ND	0.00	6.39	9.14	0.48 J	0.42 J	< 0.40	1.5 J	< 0.20	**1,400**	**7,800**	85 J	**1,100**	< 100	**8,900**	185 J	**8,715**
	MW-19-W-231117	11/17/2023	15.46	ND	0.00	5.06	10.40	0.68 J	0.43 J	0.40 J	1.4 J	< 0.20	**970**	**8,600**	81 J	**1,500**	< 100	**10,100**	181 J	**9,919**
MW-20[c]	N/A	03/13/2023	15.09	3.67	0.02	3.69	11.42	Not sampled due to presence of SPH												
	N/A	05/22/2023		4.40	0.01	4.41	10.69	Not sampled due to presence of SPH												
	N/A	08/07/2023		5.71	0.03	5.74	9.38	Not sampled due to presence of SPH												
	N/A	11/13/2023	15.01	4.07	0.01	4.08	10.94	Not sampled due to presence of SPH												
MW-21	MW-21-W-230313	03/13/2023	14.70	ND	0.00	2.86	11.84	< 0.30 UJ	< 0.30 UJ	< 0.40 UJ	< 1.4 UJ	< 0.20 UJ	< 43	200 J	NA	280	NA	480 J	NA	NA
	MW-21-W-230526	05/26/2023		ND	0.00	3.95	10.75	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	< 43	390	NA	340	NA	**730**	NA	NA
	MW-21-W-230807	08/07/2023		ND	0.00	6.37	8.33	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**500**	< 45	280	< 100	**780**	<145	**708**
	MW-21-W-231116	11/16/2023	14.60	ND	0.00	3.00	11.60	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	250	< 45	340	< 100	**590**	<145	**518**
MW-22	MW-22-W-230315	03/15/2023	14.72	ND	0.00	5.30	9.42	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	180 J	**1,700**	NA	**1,400**	NA	**3,100**	NA	NA
	MW-22-W-230526	05/26/2023		ND	0.00	5.58	9.14	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	190 J	**1,800**	NA	**900**	NA	**2,700**	NA	NA
	DUP-2-WD-230526							< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	200 J	**1,900**	NA	**1,000**	NA	**2,900**	NA	NA
	MW-22-W-230811	08/11/2023		ND	0.00	6.45	8.27	< 0.30	< 0.30	< 0.40	0.47 J	< 0.20	310	**1,600**	< 46	**890**	< 100	**2,490**	<146	**2,417**
	DUP-2-WD-230811							< 0.30	< 0.30	< 0.40	0.50 J	< 0.20	310	**1,600**	< 45	**960**	< 100	**2,560**	<147	**2,537**
	MW-22-W-231116	11/16/2023	14.67	ND	0.00	6.67	8.00	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	76 J	**4,100**	< 47	**1,200**	< 100	**5,300**	<147	**5,227**
	DUP-1-WD-231116							< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	660 J	**3,900**	< 47	**1,300**	< 100	**5,200**	<147	**5,127**
MW-23	MW-23-W-230314	03/14/2023	NS	ND	0.00	6.19	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 46	NA	< 100	NA	<146	NA	NA
	MW-23-W-230523	05/23/2023		ND	0.00	6.32	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	< 46	NA	< 100	NA	<146	NA	NA
	MW-23-W-230808	08/08/2023		ND	0.00	7.06	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 47	< 47	< 100	< 100	<147	<147	<147
	MW-23-W-231114	11/14/2023	13.50	ND	0.00	6.29	7.21	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	NA	< 100	NA	<146	NA	<146
MW-24	MW-24-W-230314	03/14/2023	NS	ND	0.00	5.56	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,000**	NA	220 J	NA	**1,220 J**	NA	NA
	N/A	05/23/2023		ND	0.00	5.68	NS	Insufficient water to sample												
	MW-24-W-230808	08/08/2023		ND	0.00	6.98	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**870**	< 46	230 J	< 100	**1,100 J**	<146	**1,027**
	MW-24-W-231114	11/14/2023	13.15	ND	0.00	5.92	7.23	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	400	< 46 UJ	170 J	< 100 UJ	**570 J**	<146 UJ	497
MW-25	MW-25-W-230317	03/17/2023	NS	ND	0.00	3.96	NS	1.10	0.33 J	1.20	< 1.4	< 0.20	720	87 J	NA	< 100	NA	<187 J	NA	NA
	MW-25-W-230525	05/25/2023		ND	0.00	4.32	NS	1.50	0.51 J	1.80	< 1.4	< 0.20	**1,200**	160	NA	< 100	NA	<260	NA	NA
	MW-25-W-230809	08/09/2023		ND	0.00	5.54	NS	2.40	0.88 J	3.30	< 0.40	< 0.20	**1,700**	340	47 J	< 100	< 100	<440	<147 J	<440
	MW-25-W-231116	11/16/2023	14.08	ND	0.00	4.34	9.74	1.40	0.46 J	1.50	< 0.40	< 0.20	**900**	150 J	< 46	< 100	< 100	<250 J	<146	<250
MW-26	MW-26-W-230314	03/14/2023	NS	ND	0.00	3.49	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**990**	NA	360	NA	**1,350**	NA	NA
	MW-26-W-230523	05/23/2023		ND	0.00	3.99	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**1,400**	NA	470	NA	**1,870**	NA	NA
	MW-26-W-230808	08/08/2023		ND	0.00	5.22	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**1,500**	< 46	470	< 100	**1,970**	<146	**1,897**
	MW-26-W-231114	11/14/2023	12.70	ND	0.00	4.07	8.63	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	470	100 U	270	330 U	**740**	440 U	300

Table 2
Fourth Quarter and Cumulative 2023 Gauging and Groundwater Analytical Data
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Sample ID	Date	TOC Elevation** (ft, NAVD88)	Depth to SPH (ft btoc)	SPH Thickness (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft, NAVD88)	Volatile Organic Compounds (VOCs)					Total Petroleum Hydrocarbons (TPH)							
								Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	TPH-g	TPH-d	TPH-d (w/ Silica gel)	TPH-o	TPH-o (w/ Silica gel)	TPH-d + TPH-o	Diesel + Oil Petroleum Contamination (w/ silica gel)	Polar Organic Concentration[d] ((D+O)-silica gel)
MTCA Method A Cleanup Levels[a] (µg/L)								5	1000	700	1000	20	800[b]	500		500		500	500	500
MW-29	MW-29-W-230316	03/16/2023	NS	ND	0.00	6.15	NS	< 0.30 UJ	< 0.30 UJ	< 0.40 UJ	< 1.4 UJ	< 0.20 UJ	**1,100**	**4,800**	NA	**930**	NA	**5,730**	NA	NA
	MW-29-W-230524	05/24/2023		ND	0.00	6.41	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	720	**4,500**	NA	420	NA	**4,920**	NA	NA
	MW-29-W-230809	08/09/2023		ND	0.00	6.99	NS	0.35 J	< 0.30	< 0.40	< 0.40	< 0.20	640	**7,000**	< 46	**560**	< 100	**7,560**	<146	**7,487**
	MW-29-W-231115	11/15/2023	14.78	ND	0.00	5.98	8.80	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	580	**3,000**	< 46	470	< 100	**3,470**	<146	**3,397**
MW-30	MW-30-W-230314	03/14/2023	NS	ND	0.00	4.79	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	79 J	**9,000**	NA	**2,000**	NA	**11,000**	NA	NA
	MW-30-W-230523	05/23/2023		ND	0.00	4.97	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	68 J	**4,400 J**	NA	**1,200 J**	NA	**5,600 J**	NA	NA
	MW-30-W-230808	08/08/2023		ND	0.00	5.95	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	85 J	**6,300**	NA	**2,200**	NA	**8,500**	NA	NA
	MW-30-W-231114	11/14/2023	13.07	ND	0.00	5.13	7.94	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	59 J	**5,300**	< 46 UJ	**1,600**	< 100 UJ	**6,900**	<146	**6,827**
MW-31	MW-31-W-230315	03/15/2023	NS	ND	0.00	6.16	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	NA	NA	NA	NA	NA	NA	NA
	N/A	05/01/2023		ND	0.00	6.03	NS	Insufficient water to sample												
	MW-31-W-230808	08/08/2023		ND	0.00	6.88	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	NA	100 U	< 45	< 100	480	<200 U	**<525**	<200
	MW-31-W-231114	11/14/2023	13.09	ND	0.00	6.17	6.92	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 220	100 UJ	< 46 UJ	< 100 UJ	< 100 UJ	<200 UJ	<146	<146
MW-32	MW-32-W-230317	03/17/2023	NS	ND	0.00	2.13	NS	1.40	0.33 J	< 0.40	< 1.4	< 0.20	**1,400**	**1,200**	NA	140 J	NA	**1,340 J**	NA	NA
	MW-32-W-230526	05/26/2023		ND	0.00	3.00	NS	0.69 J	< 0.30	< 0.40	< 0.40	< 0.20 UJ	**1,000 J**	**660**	NA	< 110	NA	**<770**	NA	NA
	MW-32-W-230811	08/11/2023		ND	0.00	4.39	NS	0.77 J	< 0.30	< 0.40	< 0.40	< 0.20	670	450	70 J	< 100	< 100	**<550**	<170 J	465
	MW-32-W-231116	11/16/2023	13.82	ND	0.00	1.99	11.83	1.10	0.48 J	< 0.40	< 0.40	< 0.20	**1,300**	**4,900**	73 J	220 J	< 100	**5,120 J**	<173 J	**5,034**
MW-34	MW-34-W-230317	03/17/2023	NS	ND	0.00	7.84	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 47	NA	< 100	NA	<147	NA	NA
	MW-34-W-230525	05/25/2023		ND	0.00	7.92	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 47	NA	< 100	NA	<147	NA	NA
	MW-34-W-230809	08/09/2023		ND	0.00	8.54	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 47	< 47	< 100	< 100	<147	<147	<147
	MW-34-W-231116	11/16/2023		ND	0.00	7.98	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	< 46	< 100	< 100	<146	<146	<146
MW-36	MW-36-W-230315	03/15/2023	NS	ND	0.00	6.09	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 47	NA	< 100	NA	<147	NA	NA
	MW-36-W-230525	05/25/2023		ND	0.00	6.08	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 50	NA	< 110	NA	<160	NA	NA
	MW-36-W-230810	08/10/2023		ND	0.00	6.80	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	< 46	< 100	< 100	<146	<146	<146
	MW-36-W-231115	11/15/2023	13.52	ND	0.00	5.80	7.72	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	NA	< 100	NA	<146	NA	NA
MW-37	MW-37-W-230315	03/15/2023	NS	ND	0.00	7.13	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 46	NA	< 100	NA	<146	NA	NA
	MW-37-W-230525	05/25/2023		ND	0.00	7.12	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	84 J	NA	< 110	NA	<194 J	NA	NA
	MW-37-W-230810	08/10/2023		ND	0.00	7.82	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	140 J	< 46	< 100	< 100	<240 J	<146	<240
	MW-37-W-231115	11/15/2023	14.54	ND	0.00	6.92	7.62	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	100 U	< 46	< 100	< 100	<200 U	<146	<200
MW-38	MW-38-W-230315	03/15/2023	NS	ND	0.00	7.62	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	46 UJ	NA	100 UJ	NA	146 UJ	NA	NA
	MW-38-W-230525	05/25/2023		ND	0.00	7.83	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	< 47	NA	< 100	NA	<147	NA	NA
	MW-38-W-230810	08/10/2023		ND	0.00	8.77	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 47	< 47	< 100	< 100	<147	<147	<147
	MW-38-W-231115	11/15/2023		ND	0.00	7.45	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	NA	< 100	NA	<146	NA	NA
MW-39	MW-39-W-230316	03/16/2023	NS	ND	0.00	5.62	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	59 J	**1,200**	NA	120 J	NA	**<1,320 J**	NA	NA
	MW-39-W-230525	05/25/2023		ND	0.00	5.91	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	82 J	**2,000**	NA	410	NA	**2,410**	NA	NA
	MW-39-W-230809	08/09/2023		ND	0.00	6.70	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	180 J	**5,200**	< 45	**760**	< 100	**5,960**	<145	**5,888**
	MW-39-W-231115	11/15/2023	15.00	ND	0.00	5.75	9.25	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	63 J	**2,300**	< 46	310	< 100	**2,610**	<146	**2,537**
RMW-1	RMW-01-W-230316	03/16/2023	NS	ND	0.00	4.70	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	110 J	**930**	NA	**550**	NA	**1,480**	NA	NA
	RMW-01-W-230524	05/24/2023		ND	0.00	5.08	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	230 J	**1,600**	NA	320	NA	**1,920**	NA	NA
	RMW-01-W-230809	08/09/2023		ND	0.00	6.11	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	370	**2,900**	< 46	400	< 100	**3,300**	<146	**3,227**
	RWM-01-W-231115	11/15/2023	14.97	ND	0.00	4.86	10.11	< 0.30	< 0.30	< 0.40	<0.40	< 0.20	250	**1,300**	54 J	210 J	**1000 U**	**2,300 U**	**1,054 J/U**	**1,246**

Table 2
Fourth Quarter and Cumulative 2023 Gauging and Groundwater Analytical Data
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Sample ID	Date	TOC Elevation** (ft, NAVD88)	Depth to SPH (ft btoc)	SPH Thickness (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft, NAVD88)	Volatile Organic Compounds (VOCs)					Total Petroleum Hydrocarbons (TPH)							
								Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	TPH-g	TPH-d	TPH-d (w/ Silica gel)	TPH-o	TPH-o (w/ Silica gel)	TPH-d + TPH-o	Diesel + Oil Petroleum Contamination (w/ silica gel)	Polar Organic Concentration[d] ((D+O)-silica gel)
MTCA Method A Cleanup Levels[a] (µg/L)								**5**	**1000**	**700**	**1000**	**20**	**800[b]**	**500**		**500**		**500**	**500**	**500**
Sand Aquifer Wells																				
D-1	D-01-W-230321	03/21/2023	17.33	ND	0.00	9.96	7.37	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	190 J	**4,600**	NA	**720**	NA	**5,320**	NA	NA
	DUP-1-WD-230321							< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	180 J	**4,800**	NA	**730**	NA	**5,530**	NA	NA
	D-01-W-230524	05/24/2023		ND	0.00	10.17	7.16	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	180 J	**4,200**	NA	**650**	NA	**4,850**	NA	NA
	DUP-1-WD-230524							< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	180 J	**4,400**	NA	**620**	NA	**5,020**	NA	NA
	D-01-W-230811	08/11/2023		ND	0.00	11.46	5.87	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	200 J	**3,400**	< 46	380	< 100	**3,780**	<146	**3,707**
	DUP-1-WD-230811							< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	220 J	**3,300**	< 46	440	< 100	**3,740**	<146	**3,667**
	D-01-W-231117	11/17/2023	17.26	ND	0.00	10.22	7.04	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 430	**4,300**	52 UJ	**780**	**920 J**	**5080**	**972 J/UJ**	**4,108**
	DUP-2-WD-231117							< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 430	**4,500**	< 47	**850**	< 100	**5,350**	<147	**5,277**
D-2A	D-02A-W-230314	03/14/2023	14.90	ND	0.00	7.59	7.31	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,400**	NA	**580**	NA	**1,980**	NA	NA
	D-02A-W-230523	05/23/2023		ND	0.00	7.77	7.13	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	43 J	**1,400**	NA	**520**	NA	**1,920**	NA	NA
	D-02A-W-230808	08/08/2023		ND	0.00	8.76	6.14	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	75 J	**1,200**	< 45	390	< 100	**1,590**	<146	**1,517**
	D-02A-W-231114	11/14/2023	15.16	ND	0.00	7.78	7.38	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**1,200**	< 46	**540**	< 100	**1,740**	<146	**1,667**
D-3A	D-03A-W-230317	03/17/2023	NS	ND	0.00	6.87	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	74 J	**3,000**	NA	**730**	NA	**3,730**	NA	NA
	D-03A-W-230526	05/26/2023		ND	0.00	6.93	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	< 43	**1,900**	NA	460	NA	**2,360**	NA	NA
	D-03A-W-230811	08/11/2023		ND	0.00	8.18	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	59 J	**1,500**	< 46	**520**	< 100	**2,020**	<146	**1,947**
	D-03A-W-231116	11/16/2023	14.12	ND	0.00	7.05	7.07	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	49 J	**1,100**	< 46	290	< 100	**1,390**	<146	**1,317**
D-6	D-06-W-230317	03/17/2023	18.26	ND	0.00	10.90	7.36	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	200 J	**3,300**	NA	420	NA	**3,720**	NA	NA
	D-06-W-230524	05/24/2023		ND	0.00	12.87	5.39	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	210 J	**2,100 J**	NA	220 J	NA	**2,300 J**	NA	NA
	D-06-W-230810	08/10/2023		ND	0.00	12.54	5.72	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	260	**3,500**	< 45	410	< 100	**3,910**	<145	**3,838**
	D-06-W-231116	11/16/2023	18.23	ND	0.00	11.01	7.22	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	250	**2,600**	54 J	280	130 J	**2,880**	184 J	**2,696**
D-7	D-07-W-230315	03/15/2023	14.47	ND	0.00	7.24	7.23	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	210	NA	130 J	NA	340 J	NA	NA
	D-07-W-230526	05/26/2023		ND	0.00	7.55	6.92	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	< 43	290	NA	100 J	NA	390 J	NA	NA
	D-07-W-230811	08/11/2023		ND	0.00	8.34	6.13	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	170 J	< 45	< 100	< 100	<270 J	<145	<270
	D-7-W-231116	11/16/2023	14.82	ND	0.00	7.34	7.48	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	420	< 47	110 J	< 100	**530 J**	<147	457
D-8	D-08-W-230314	03/14/2023	NS	ND	0.00	6.84	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,700**	NA	440	NA	**2,140**	NA	NA
	D-08-W-230523	05/23/2023		ND	0.00	7.57	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**920**	NA	230 J	NA	**1,150 J**	NA	NA
	D-08-W-230808	08/08/2023		ND	0.00	7.72	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	62 J	**1,200**	< 45	290	< 100	**1,490**	<145	**1417**
	D-08-W-231114	11/14/2023	13.73	ND	0.00	7.07	6.66	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	50 J	**1,100**	< 47	360	< 100	**1,460**	<147	**1387**
D-9	D-09-W-230315	03/15/2023	NS	ND	0.00	5.71	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**2,400**	NA	**1,100**	NA	**3,500**	NA	NA
	D-09-W-230523	05/23/2023		ND	0.00	5.70	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**1,700**	NA	**520**	NA	**2,220**	NA	NA
	D-09-W-230808	08/08/2023		ND	0.00	6.83	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	51 J	**2,300**	130	**710**	**2000**	**3010**	**2,130**	**880**
	D-09-W-231114	11/14/2023	12.90	ND	0.00	5.81	7.09	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**2,400**	< 46	**1,100**	< 100	**3,500**	<146	**3,427**
D-10	D-10-W-230317	03/17/2023	NS	ND	0.00	7.02	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	43 J	**870**	NA	150 J	NA	**1,030 J**	NA	NA
	D-10-W-230525	05/25/2023		ND	0.00	7.45	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	43 J	**1,200**	NA	190 J	NA	**1,390 J**	NA	NA
	D-10-W-230809	08/09/2023		ND	0.00	8.00	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	110 J	**2,200**	< 45	230 J	< 100	**2,430 J**	<145	**2,358**
	D-10-W-231116	11/16/2023	14.03	ND	0.00	7.26	6.77	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	93 J	**1,900**	< 46	190 J	< 100	**2,090 J**	<146	**2,017**
D-12	D-12-W-230316	03/16/2023	NS	ND	0.00	7.80	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	280	NA	270	NA	**550**	NA	NA
	D-12-W-230524	05/24/2023		ND	0.00	8.17	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	330	NA	270	NA	**600**	NA	NA
	D-12-W-230809	08/09/2023		ND	0.00	8.79	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	280	< 46	190 J	< 100	470 J	<146	397
	D-12-W-231115	11/15/2023	14.85	ND	0.00	7.93	6.92	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	270	< 46	190 J	< 100	460 J	<146	397
D-13[c]	N/A	03/13/2023	NS	5.68	0.46	6.14	NS	Not sampled due to presence of SPH												
	N/A	05/22/2023		5.90	0.01	5.91	NS	Not sampled due to presence of SPH												
	N/A	08/07/2023		7.39	0.04	7.43	NS	Not sampled due to presence of SPH												
	N/A	11/13/2023	13.84	6.00	0.01	6.01	7.84	Not sampled due to presence of SPH												
D-14	D-14-W-230321	03/21/2023	NS	ND	0	8.17	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	71 J	NA	< 110	NA	<171 J	NA	<171
	D-14-W-230526	05/26/2023		ND	0	7.75	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20 UJ	45 J	< 48	NA	< 110	NA	<148	NA	<148
	D-14-W-230810	08/10/2023		ND	0	8.94	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	< 46	< 100	< 100	<146	<146	<146
	D-14-W-231117	11/17/2023	14.82	ND	0	8.01	6.81	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	< 46	< 46	< 100	< 100	<146	<146	<146
D-15	D-15-W-230316	03/16/2023	NS	ND	0	7.85	NS	< 0.30 UJ	< 0.30 UJ	< 0.40 UJ	< 1.4 UJ	< 0.20 UJ	< 43	**2,000**	NA	500	NA	**2,500**	NA	NA
	D-15-W-230524	05/24/2023		ND	0	8.43	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,900**	NA	**800**	NA	**2,700**	NA	NA
	D-15-W-230809	08/09/2023		ND	0	8.76	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	67 J	**1,400**	< 45	270	< 100	**1,670**	<145	**1,598**
	D-15-W-231115	11/15/2023	14.80	ND	0	7.98	6.82	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**1,300**	< 46	260	< 100	**1,560**	<146	**1,487**
D-17	D-17-W-230314	03/14/2023	NS	ND	0	5.50	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	150	NA	< 100	NA	<250	NA	<250
	D-17-W-230523	05/23/2023		ND	0	5.43	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	81 J	NA	110 UJ	NA	191 J/UJ	NA	<191
	D-17-W-230808	08/08/2023		ND	0	6.57	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	100 U	< 46	< 100	< 100	<200	<146	<200
	D-17-W-231114	11/14/2023	12.75	ND	0	5.58	7.17	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	180 J	< 46	< 100	< 100	<280 J	<146	<280
D-18	D-18-W-230314	03/14/2023	NS	ND	0	6.07	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	500	NA	300	NA	**800**	NA	NA
	D-18-W-230523	05/23/2023		ND	0	6.04	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**650**	NA	200 J	NA	**<850 J**	NA	NA
	D-18-W-230808	08/08/2023		ND	0	7.17	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**870**	< 45	300	< 100	**1,170**	<145	**1,098**
	D-18-W-231114	11/14/2023	13.29	ND	0	6.18	7.11	< 0.30	< 0.30	< 0.40	< 0.30	< 0.20	< 43	**640**	< 46	320	< 100	**960**	<146	**887**

Table 2
Fourth Quarter and Cumulative 2023 Gauging and Groundwater Analytical Data
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Sample ID	Date	TOC Elevation** (ft, NAVD88)	Depth to SPH (ft btoc)	SPH Thickness (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft, NAVD88)	Volatile Organic Compounds (VOCs)					Total Petroleum Hydrocarbons (TPH)							
								Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	TPH-g	TPH-d	TPH-d (w/ Silica gel)	TPH-o	TPH-o (w/ Silica gel)	TPH-d + TPH-o	Diesel + Oil Petroleum Contamination (w/ silica gel)	Polar Organic Concentration[d] ((D+O)-silica gel)
MTCA Method A Cleanup Levels[a] (µg/L)								5	1000	700	1000	20	800[b]	500		500		500	500	500
D-19	D-19-W-230314	03/14/2023	NS	ND	0	6.04	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	420	NA	160 J	NA	**580 J**	NA	NA
	D-19-W-230523	05/23/2023		ND	0	6.10	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20 UJ	< 43	**610**	NA	180 J	NA	**790 J**	NA	NA
	D-19-W-230808	08/08/2023		ND	0	7.18	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	380	< 46	130 J	< 100	**520 J**	<146	447
	D-19-W-231114	11/14/2023	13.22	ND	0	6.16	7.06	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	410	< 46	140 J	< 100	**550 J**	<146	477
D-22	D-22-W-230317	03/17/2023	NS	ND	0	8.92	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	89 J	NA	< 100	NA	<189 J	NA	<189
	D-22-W-230525	05/25/2023		ND	0	10.27	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	230	NA	< 110	NA	<330	NA	<330
	D-22-W-230809	08/09/2023		ND	0	9.27	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	72 J	330	< 46	< 100	< 100	<430	<146	<430
	D-22-W-231116	11/16/2023	15.39	ND	0	8.97	6.42	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	72 J	500	< 46 UJ	< 100	< 100 UJ	*<600*	<146	*<527*
D-24	D-24-W-230315	03/15/2023	NS	ND	0	6.42	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	65 J	NA	< 100	NA	<165 J	NA	<165
	D-24-W-230525	05/25/2023		ND	0	6.66	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	260	NA	< 110	NA	<360	NA	<360
	D-24-W-230810	08/10/2023		ND	0	7.49	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	100 J	< 47	< 100	< 100	<200 J	<147	<200
	D-24-W-231115	11/15/2023	13.53	ND	0	6.49	7.04	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	250	< 46	< 100	400 U	<350	<146	<350
D-25	D-25-W-230315	03/15/2023	NS	ND	0	7.50	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**960**	NA	360	NA	**1320**	NA	NA
	D-25-W-230525	05/25/2023		ND	0	7.62	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,200**	NA	380	NA	**1580**	NA	NA
	D-25-W-230810	08/10/2023		ND	0	8.55	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**900**	< 46	280	< 100	**1180**	<146	**1,107**
	D-25-W-231115	11/15/2023	14.65	ND	0	7.60	7.05	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**1200**	64 J	420	< 100	**1620**	<164	**1,538**
D-26	D-26-W-230315	03/15/2023	NS	ND	0	7.99	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	240	NA	140 J	NA	380 J	NA	NA
	D-26-W-230525	05/25/2023		ND	0	8.02	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	230	NA	120 J	NA	350 J	NA	NA
	D-26-W-230810	08/10/2023		ND	0	9.05	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	130 J	< 47 UJ	< 100	< 100	<230 J	<147 UJ	<230
	D-26-W-231115	11/15/2023		ND	0	8.12	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	170 J	< 46 UJ	< 100	250 U	<270 J	<146 UJ	<270
D-27	D-27-W-230315	03/15/2023	NS	ND	0	7.86	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	< 43	**1,900**	NA	**800**	NA	**2,700**	NA	NA
	D-27-W-230525	05/25/2023		ND	0	8.03	NS	< 0.30	< 0.30	< 0.40	< 1.4	< 0.20	47 J	**2,000**	NA	**560**	NA	**2,560**	NA	NA
	D-27-W-230809	08/09/2023		ND	0	8.91	NS	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	51 J	**1,700**	< 46	410	< 100	**2,110**	<146	**2,037**
	D-27-W-231115	11/15/2023	14.99	ND	0	7.98	7.01	< 0.30	< 0.30	< 0.40	< 0.40	< 0.20	< 43	**1,300**	< 46	360	< 100	**1,660**	<146	**1,587**

Notes:
TPH-g (or TPH-GRO) = Total Petroleum Hydrocarbons, Gasoline-Range; reported as (C7-C12) via the NWTPH-Gx Volatile Petroleum Products Method in the laboratory analytical report.
TPH-d (or TPH-DRO) = Total Petroluem Hydrocarbons, Diesel Range; reported as (C12-C24) via the NWTPH-Dx Semi-Volatile Petroleum Products Method in the laboratory analytical report.
TPH-o (or TPH-HRO) = Total Petroleum Hydrocarbons, Oil-Range; reported as (C24-C40) via the NWTPH-Dx Semi-Volatile Petroleum Products Method in the laboratory analytical report.

** Top of Casing (TOC) elevations were (re-)surveyed by Bush, Roed & Hitching, Inc. on October 16-17, 2023.
[a] Department of Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels

[b] Two TPH-g cleanup levels exist in MTCA Method A Cleanup Levels. The more conservative cleanup level of 800 µg/L, for use when benzene is detected, is presented in this table.
When benzene is not detected, however, the cleanup level is 1,000 µg/L.

[c] Corrected groundwater elevation for wells containing SPH: TOC - DTW + (T_{SPH} * SG_{SPH})
TOC = top of casing elevation
DTW = depth to water (ft btoc)
T_{SPH} = SPH thickness (DTW - Depth to SPH)
SG_{SPH} = specific gravity of SPH (assumes an average specific gravity of 0.87)

[d] Polar Organic Concentrations are calculated by subtracting the with silica gel TPH-d+o value from the non silica gel TPH-d+o value and reporting the remainder. Non detections and "<" values for non silica gel TPH-d+o are listed with the "<" value for the Polar Organic Fraction.
TPH-d+o with silica gel non-detections are subtracted at half the listed reporting limit. Polar Organic Fraction was not calculated if silica gel analyses were not performed. Qualifiers listed for the TPH-d and TPH-o fractions are applicable but not listed.

1. All TPH concentrations are reported in units of µg/L.
2. Reported values not detected above the laboratory Method Detection Limit (MDL) are preceded by "<".
3. Reported values followed by "J" indicate estimated concentrations above the MDL.
4. Reported values followed by "U" indicate analyte is qualified as not detected, based on the data validation review.
5. Reported values followed by "UJ" indicate the analyte was not detected above the MDL, but the MDL is estimated.
6. Results that are greater than the MTCA Method A Cleanup Levels are indicated by **bolded and shaded values**.
7. *Results in Italics indicate non-detect value is greater than CUL*

Abbreviations:
µg/L = micrograms per liter
NAVD88 = North American Vertical Datum of 1988
ft btoc = feet below top of casing
SPH = separate-phase hydrocarbon
NWTPH = Northwest Total Petroleum Hydrocarbons
N/A = not applicable (sample not collected)
NS = not surveyed
NA = not analyzed
ND = SPH not detected in well
DUP = duplicate sample

Table 3 - October 2023 High and Low Tide Groundwater Elevations
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Well ID	Date	TOC Elevation (ft, NAVD88)	Depth to Groundwater High Tide (ft BTOC)	Depth to Groundwater Low Tide (ft BTOC)	Groundwater Elevation High Tide (ft, NAVD88)	Groundwater Elevation Low Tide (ft, NAVD88)
Perched Groundwater-bearing Unit Wells[1]						
MW-10	10/16/2023	13.31	5.68	5.88	7.63	7.43
MW-11	10/16/2023	14.99	6.81	6.81	8.18	8.18
MW-12	10/16/2023	15.05	6.95	5.95	8.10	9.10
MW-13	10/16/2023	16.83	7.77	NM	9.06	NM
MW-14	10/16/2023	17.61	7.66	NM	9.95	NM
MW-18	10/16/2023	18.20	9.45	NM	8.75	NM
MW-19	10/16/2023	15.46	6.31	NM	9.15	NM
MW-20	10/16/2023	15.01	SPH			
MW-21	10/16/2023	14.60	4.97	NM	9.63	NM
MW-22	10/16/2023	14.67	NM	NM	NM	NM
MW-23	10/16/2023	13.50	6.98	6.98	6.52	6.52
MW-24	10/16/2023	13.15	6.71	6.62	6.44	6.53
MW-25	10/16/2023	14.08	5.40	5.37	8.68	8.71
MW-26	10/16/2023	12.70	5.13	5.07	7.57	7.63
MW-29	10/16/2023	14.78	7.62	6.62	7.16	8.16
MW-30	10/16/2023	13.07	5.86	5.85	7.21	7.22
MW-31	10/16/2023	13.09	6.65	6.64	6.44	6.45
MW-32	10/16/2023	13.82	4.00	NM	9.82	NM
MW-34	10/16/2023	TBD	NM	NM	TBD	NM
MW-36	10/16/2023	13.52	6.75	NM	6.77	NM
MW-37	10/16/2023	14.54	7.87	NM	6.67	NM
MW-38	10/16/2023	TBD	8.05	NM	TBD	TBD
MW-39	10/16/2023	15.00	6.41	6.41	8.59	8.59
RMW-1	10/16/2023	14.97	5.93	5.92	9.04	9.05
Sand Aquifer Wells						
D-1	10/16/2023	17.26	1.86	NM	15.40*	NM
D-2A	10/16/2023	15.16	8.29	8.29	6.87	6.87
D-3A	10/16/2023	14.12	7.62	NM	6.50	NM
D-6	10/16/2023	18.23	11.72	NM	6.51	NM
D-7	10/16/2023	14.82	NM	NM	NM	NM
D-8	10/16/2023	13.73	7.07	7.56	6.66	6.17
D-9	10/16/2023	12.90	7.47	6.34	5.43	6.56
D-10	10/16/2023	14.03	7.41	7.74	6.62	6.29
D-12	10/16/2023	14.85	8.31	8.43	6.54	6.42
D-13	10/16/2023	13.84	SPH			
D-14	10/16/2023	14.82	8.03	NM	6.79	NM
D-15	10/16/2023	14.80	8.25	5.48	6.55	9.32*
D-17	10/16/2023	12.75	6.26	6.13	6.49	6.62
D-18	10/16/2023	13.29	6.84	6.71	6.45	6.58
D-19	10/16/2023	13.22	6.79	6.71	6.43	6.51
D-22	10/16/2023	15.39	9.42	9.47	5.97	5.92
D-24	10/16/2023	13.53	7.07	NM	6.46	NM
D-25	10/16/2023	14.65	9.14	NM	5.51	NM
D-26	10/16/2023	TBD	8.63	NM	TBD	TBD
D-27	10/16/2023	14.99	8.47	8.49	6.52	6.50

Notes:
[1]Perched groundwater-bearing unit (GWBU) groundwater elevations were not used for potentiometric contouring since perched GWBU wells are not suspected to be tidally influenced.
*Groundwater elevation is considered anamolous and not used in **Figures 6b** or **6c**.
BTOC = below top of casing
ft = feet
ID = identification
NAVD88 = North American Vertical Datum of 1988
NM = not measured
SPH = separate-phase hydrocarbon
TBD = to be determined. TOC and groundwater elevations will be determined at a later date.
TOC = top of casing

Table 4 - Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure
Former Chevron Bulk Terminal, Facility No. 1001348
Tacoma, Washington

AECOM

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest ½ acre (1/4 acre if the area is less than 0.5 acre).	
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	11
Area (acres) / Points: 0.25 or less / 4; 0.5 / 5; 1.0 / 6; 1.5 / 7; 2.0 / 8; 2.5 / 9; 3.0 / 10; 3.5 / 11; 4.0 or more / 12	
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1.	3
3)[a] Enter a score in the box to the right for the habitat quality of the site, using the following rating system[b]. High=1, Intermediate=2, Low=3	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.[c]	2
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	12

Notes:

This table was generated using Washington Administrative Code 173-340-7492, Table 749-1

Appendix A

Previous Analytical Results

Soil Data - Pre-2000 and Groundwater Data - 1992 & 1995

TABLE 1

SUMMARY OF SUBSURFACE SOIL CONTAMINATION DATA

Boring Number	Soil Odor During Drilling	Depth of Sample Tested (ft)	BETX (EPA Method 8020) Benzene (ppb)	Ethylbenzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Total Petroleum Hydrocarbon (EPA Method 418.1) (ppm)
MW-1	Yes	2.0	ND	ND	ND	ND	56
		5.5	ND	ND	ND	ND	50
MW-2	Yes	2.0	ND	1,790	570	6,930	26,846*
		4.5	ND	7,290	470	19,400	14,641*
MW-3	Yes	2.0	630	32,200*	1,560	33,400	4,705*
		4.5	ND	3,420	80	5,360	1,215*
MW-4	Yes	4.5	80	4,420	790	11,900	4,864*
		9.5	ND	890	150	2,890	7.9
MW-5	Yes	2.0	ND	13,700	590	34,600	4,630*
		4.5	ND	640	ND	2,210	46
MW-6	No	2.0	ND	ND	ND	ND	7.5
		4.5	ND	ND	ND	ND	20
MW-7	Yes	3.5	890*	4,620	1,530	25,000	4,163*
		8.5	ND	ND	80	680	36
MW-8	Yes	3.5	860*	8,930	2,140	26,300	4,761*
MW-9	No	3.5	ND	ND	ND	120	25
		8.5	ND	ND	ND	100	48
MW-10	No	3.5	ND	ND	ND	60	17
MW-11	Yes	8.5	ND	ND	ND	ND	11
MW-12	Yes	8.5	ND	ND	ND	ND	13
HB-1	Yes	3.5	460	330	2,550	5,350	15,366*
HB-2	Yes	4.0	ND	700	ND	2,221	3,264*
HB-3	Yes	7.0	ND	530	ND	1,690	1,863*
HB-4	Yes	3.5	490	10,400	2,080	14,600	16,965*
		10.0	ND	2,460	ND	7,210	81
HB-5	Yes	4.5	260	6,110	1,110	18,000	15,635*
HB-6	Yes	3.5	—	—	—	—	4,539*
		8.5	ND	80	50	870	579*
HB-7	Yes	3.5	130	5,750	640	9,670	9,126*
HB-8	Yes	3.0	120	4,810	520	7,940	8,867*

"—" signifies not tested; "ND" signifies not detected; "ppb" signifies parts per billion; "ppm" signifies parts per million; "*" signifies concentrations exceeding Ecology cleanup guidelines.

Geo Engineers

Table 3
Summary of Soil Analytical Data from Phase 2 Monitor Well Borings

Boring Number	Sample Depth (ft)	Soil Unit	TPH (ppm)	BETX (ppb)				Field Screening	
				B	E	T	X	Vapors (ppm)	Sheen Test
MW-13	4.5	Fill	8,300	<25	2,100	600	9,800	1200	HS
MW-14	8	Silt	28	<39	<39	<39	<39	<100	NS
MW-15	7.5	Fill	79	600	120	180	1200	420	HS
MW-16	3	Fill	5,300	<25	<25	120	460	120	MS
MW-17	3	Fill	38,000	3,900	6,500	27,000	120,000	1200	HS
	8	Fill	2.1	<37	110	350	620	720	HS
D-1	8	Silt	2.1	<36	<36	<36	<36	350	HS
	13	Sand	9.5	<25	<25	<25	<25	220	NS
D-2	3	Fill	18,000	<25	11,000	500	33,000	1200	HS
	18	Sand	<1.0	<25	<25	<25	<25	<100	NS
D-3	3	Fill	11,000	<25	5,000	570	13,000	230	HS
	8	Fill	200	110	1,900	<41	530	450	HS
D-4	8	Silt	<1.0	<37	<37	<37	<37	<100	NS
	13	Sand	<1.0	<25	<25	<25	<25	<100	NS
D-5	13	Sand	<1.0	<25	<25	<25	<25	620	MS

Notes:

"ppm" indicates "parts per million"

"ppb" indicates "parts per billion"

"<" indicates "indicates less than"

B = benzene, E = ethylbenzene, T = toluene, X = total xylenes

BETX analyzed by EPA Method 8020

TPH - Total Petroleum Hydrocarbons by EPA Method 418.1

Vapor concentrations measured in sample headspace with a Bacharach TLV Sniffer calibrated to hexane

NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen

Table 4 (Page 1 of 5)
Summary of Test Pit Soil Analytical Data

Test Pit	Sample Depth (ft)	Field Screening		TPH (ppm)
		Vapors	Sheen	
TP-1	2.5	3,000	HS	--
	5	1,800	HS	3,200
	8	1,400	HS	--
TP-2	3	1,110	HS	--
	5	100	HS	500
	8	120	NS	--
TP-3	3	1,400	HS	--
	5	5,100	HS	20,000
	8	2,900	HS	--
TP-4	3	2,400	HS	--
	5	7,800	HS	900
TP-5	3	100	HS	--
	5	5,600	HS	7,000
	8	4,900	HS	--
TP-6	3	3,800	HS	--
	5	1,700	HS	--
	8	6,400	HS	580
TP-7	3	3,600	HS	--
	5	3,200	HS	5,500
TP-8	3	4,900	HS	--
	5	3,000	HS	--
	8	4,500	HS	1,400
TP-9	3	>10,000	HS	7,800
	5	5,100	HS	--
TP-10	3	<100	HS	--
	5	300	MS	--
	8	2,100	HS	4,400
TP-11	3	3,000	HS	30,000
	5	280	HS	--
	8	1,500	HS	--
TP-12	3	3,400	HS	--
	5	3,400	HS	--
	8	4,100	HS	5,000

Notes:

Vapor concentrations measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"

NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen

TPH - Total Petroleum Hydrocarbons by EPA Method 418.1

"--" - "not tested", "<" - "less than", ">" - "greater than"

Table 4 (Continued, Page 2 of 5)
Summary of Test Pit Soil Analytical Data

Test Pit	Sample Depth (ft)	Field Screening		TPH (ppm)
		Vapors	Sheen	
TP-13	3	2,600	HS	--
	5	6,000	HS	--
	7	2,100	HS	15,000
TP-14	3	4,200	HS	--
	5	4,000	HS	2,800
	8	1,400	HS	--
TP-15	3	8,000	HS	40,000
	5	2,400	HS	--
	8	5,500	HS	--
TP-16	3	6,000	HS	--
	5	3,200	HS	--
	8	5,700	HS	4,800
TP-17	3	2,700	HS	3,700
	5	320	NS	--
	8	900	SS	--
TP-18	3	1,400	HS	--
	5	1,100	HS	4,300
	8	1,000	HS	--
TP-19	3	1,100	HS	--
	5	1,200	HS	3,100
	8	1,300	HS	--
TP-20	3	2,500	HS	8,200
	5	300	HS	--
	8	150	HS	--
TP-21	3	2,600	HS	--
	5	600	HS	--
	8	1,500	HS	2,200
TP-22	3	--	HS	--
	5	3,000	HS	16,000
TP-23	3	1,400	HS	17,000
	5	300	HS	--
	7	200	HS	--

Notes:

Vapor concentrations measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"

NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen

TPH - Total Petroleum Hydrocarbons by EPA Method 418.1

"--" - "not tested", "<" - "less than", ">" - "greater than"

Table 4 (Continued, Page 3 of 5)
Summary of Test Pit Soil Analytical Data

Test Pit	Sample Depth (ft)	Field Screening		TPH (ppm)
		Vapors	Sheen	
TP-24	3	300	HS	--
	5	100	HS	4,800
	7	100	HS	--
TP-25	3	360	HS	--
	5	200	HS	--
	8	1,000	HS	21,000
TP-26	3	200	HS	36,000
	6	100	HS	--
TP-27	3	600	HS	--
	5	600	HS	2,600
	8	--	MS	--
TP-28	3	200	HS	53,000
	5	100	HS	--
	6.5	300	HS	--
TP-29	3	200	HS	--
	5	300	MS	520
	6.5	150	MS	--
TP-30	3	<100	NS	--
	5	<100	NS	--
	7.5	<100	NS	5.3
TP-31	3	<100	HS	--
	5	<100	MS	--
	8	<100	MS	1,400
TP-32	3	1,400	HS	--
	5	2,000	HS	12,000
	8	1,900	HS	--
TP-33	3	300	HS	--
	5	2,100	HS	14,000
	8	340	HS	--
TP-34	3	<100	NS	--
	5	1,200	MS	1,800
	8	620	MS	--

Notes:
Vapor concentrations measured in ppm with a Bacharach TLV Sniffer calibrated to hexane
"ppm" indicates "parts per million"
NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen
TPH - Total Petroleum Hydrocarbons by EPA Method 418.1
"--" - "not tested", "<" - "less than", ">" - "greater than"

Table 4 (Continued, Page 4 of 5)
Summary of Test Pit Soil Analytical Data

Test Pit	Sample Depth (ft)	Field Screening		TPH (ppm)
		Vapors	Sheen	
TP-35	3	500	HS	--
	5	1,000	HS	3,800
	8	220	HS	--
TP-36	3	3,100	HS	12,000
	5	<100	HS	--
	8	1,500	HS	--
TP-37	3	120	HS	5,400
	5	<100	NS	--
	6	<100	SS	--
TP-38	3	1,200	HS	11,000
	5	420	HS	--
	6	<100	NS	-
TP-39	3	600	HS	23,000
	4	<100	MS	--
	5	<100	SS	--
TP-40	3.5	<100	SS	370
	5	<100	SS	--
	5.5	<100	NS	--
TP-41	4	360	HS	1,200
	5	200	SS	--
TP-42	4	1200	MS	2,800
	4.5	<100	NS	--
TP-43	4	680	HS	1,200
	5	<100	NS	--
TP-44	4	900	HS	10,000
	5	210	HS	--
	6.5	<100	NS	--
TP-45	3	280	HS	28,000
	5	240	HS	--
TP-46	4	<100	NS	--
	5	<100	NS	5.3
TP-47	3	430	HS	--
	5	530	HS	370
	7	100	HS	--

Notes:

Vapor concentrations measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"

NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen

TPH - Total Petroleum Hydrocarbons by EPA Method 418.1

"--" - "not tested", "<" - "less than", ">" - "greater than"

Table 4 (Continued, Page 5 of 5)
Summary of Test Pit Soil Analytical Data

Test Pit	Sample Depth (ft)	Field Screening		TPH (ppm)
		Vapors	Sheen	
TP-48	4	280	HS	--
	5	380	HS	12,000
	7.5	200	HS	--
TP-49	3	840	HS	12,000
	6	660	HS	--
	7	<100	HS	--

Notes:
Vapor concentrations measured in ppm with a Bacharach TLV Sniffer calibrated to hexane
"ppm" indicates "parts per million"
NS - no sheen, SS - slight sheen, MS - moderate sheen, HS - heavy sheen
TPH - Total Petroleum Hydrocarbons by EPA Method 418.1
"--" - "not tested", "<" - "less than", ">" - "greater than"

TABLE 1 (Page 1 of 7)
SUMMARY OF HAND BORING AND TEST PIT SOIL ANALYTICAL DATA

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
TP-50	3	<100	SS	--	--	--
	5	1,600	HS	3,100	--	--
TP-51	3	<100	NS	--	--	--
	5	5,600	MS	1,100	--	--
	6.5	1,600	SS	--	--	--
TP-52	3	1,000	HS	--	--	--
	5	2,800	HS	--	--	--
	6	6,800	HS	700	--	--
TP-53	3	<100	SS	--	--	--
	5	1,800	HS	--	--	--
	6.5	>10,000	HS	--	250	<50
TP-54	3	1,200	HS	--	--	--
	5	1,700	HS	--	--	--
	6.5	3,200	HS	--	--	--
TP-55	3	2,600	HS	--	--	--
	5	4,800	HS	--	--	--
	7	8,600	HS	15,000	1,000	5,600
TP-56	3	600	HS	--	--	--
	5	1,800	HS	--	--	--
	7.5	2,400	HS	--	--	--
TP-57	3	<100	HS	--	--	--
	5	160	HS	--	--	--
	7	2,000	HS	940	--	--
	8	150	NS	--	--	--
TP-58	3	<100	SS	--	--	--
	5	1,400	HS	--	--	--
	7	900	HS	--	--	--
	8	<100	NS	--	--	--

Notes:
Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane
"ppm" indicates "parts per million"; "--" indicates "not tested";
"<" indicates "less than"; ">" indicates "greater than"
NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen
TPH = total petroleum hydrocarbons by EPA Method 418.1
Gasoline quantified in the range C6 through 17
Diesel quantified in the range C12 through C26
Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 2 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
TP-59	3	300	HS	--	--	--
	5	220	HS	--	--	--
	6.5	6,200	HS	4,200	--	--
	7	340	NS	--	--	--
TP-60	3	2,300	HS	--	--	--
	5	3,000	HS	--	--	--
	7.5	1,600	HS	--	--	--
	8	100	NS	--	--	--
TP-61	3	3,200	HS	--	--	--
	5	3,800	HS	92	--	--
TP-62	3	<100	MS	--	--	--
	5	1,800	HS	--	--	--
	7	20	NS	--	--	--
TP-63	3	<100	NS	--	--	--
	5	280	NS	--	--	--
	6	1,600	SS	30	--	--
	6.5	2,100	NS	--	--	--
TP-64	3	<100	NS	--	--	--
	4.5	<100	NS	5.7	--	--
	5	<100	NS	--	--	--
TP-65	3	350	NS	--	--	--
	5	<100	SS	75	--	--
	5.5	<100	NS	--	--	--
TP-66	3	800	SS	28	--	--
	5	300	NS	--	--	--
	5.5	<100	NS	--	--	--
TP-67	3	<100	NS	--	--	--
	3.5	<100	NS	--	--	--
TP-68	3	100	HS	--	--	--
	4.5	1,800	MS	26	--	--
	5	<100	NS	--	--	--
TP-69	3	<100	MS	92	--	--
	5	100	SS	--	--	--
	5.5	<100	NS	--	--	--

Notes:

Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"; "--" indicates "not tested";

"<" indicates "less than"; ">" indicates "greater than"

NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen

TPH = total petroleum hydrocarbons by EPA Method 418.1

Gasoline quantified in the range C6 through 12

Diesel quantified in the range C12 through C26

Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 3 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
TP-70	3	<100	NS	--	--	--
	4.5	1,000	HS	590	--	--
	5	<100	NS	--	--	--
TP-71	3	<100	NS	--	--	--
	4.5	<100	NS	3.0	--	--
	5	<100	NS	--	--	--
TP-72	3	<100	SS	--	--	--
	5	220	MS	--	--	--
	5.5	<100	MS	--	--	--
TP-73	3	<100	NS	--	--	--
	5	<100	NS	--	--	--
	6.5	200	SS	<1.0	--	--
	7	<100	NS	--	--	--
TP-74	3	40	NS	--	--	--
	5	1,400	NS	23	--	--
	7	<100	MS	--	--	--
	7.5	<100	NS	--	--	--
TP-75	3	<100	NS	--	--	--
	5	<100	NS	--	--	--
	7	160	SS	110	--	--
	7.5	<100	NS	--	--	--
TP-76	3	<100	SS	--	--	--
	5	160	NS	--	--	--
	7	280	NS	3.1	--	--
	7.5	<100	NS	--	--	--
TP-77	3	<100	NS	--	--	--
	5	<100	SS	--	--	--
	6	380	SS	13	--	--
	6.5	<100	NS	--	--	--

Notes:
Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane
"ppm" indicates "parts per million"; "--" indicates "not tested";
"<" indicates "less than"; ">" indicates "greater than"
NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen
TPH = total petroleum hydrocarbons by EPA Method 418.1
Gasoline quantified in the range C6 through 12
Diesel quantified in the range C12 through C26
Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 4 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
TP-78	3	<100	NS	--	--	--
	5	820	MS	110	--	--
	7	260	NS	--	--	--
	7.5	200	NS	--	--	--
TP-79	3	<100	NS	--	--	--
	5	2,600	MS	--	--	--
	7	>10,000	HS	10,000	9,500	<500
	7.5	<100	NS	--	--	--
TP-80	3	<100	SS	--	--	--
	5	<100	SS	--	--	--
	6.5	220	NS	3.0	--	--
	7	<100	NS	--	--	--
TP-81	3	<100	NS	--	--	--
	5	140	SS	--	--	--
	6	180	SS	7.8	--	--
	6.5	--	NS	--	--	--
TP-82	3	<100	NS	--	--	--
	5	160	NS	--	--	--
	6.5	260	NS	5.4	--	--
	7	<100	NS	--	--	--
TP-83	3	260	NS	--	--	--
	5	160	NS	4.2	--	--
	6.5	30	NS	--	--	--
	7	360	NS	--	--	--
HH-1	1	<100	SS	--	--	--
	2	700	HS	--	--	--
	3	2,000	HS	--	--	--
	4	2,200	HS	4,900	--	--
	5	1,900	HS	--	--	--

Notes:

Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"; "--" indicates "not tested";

"<" indicates "less than"; ">" indicates "greater than"

NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen

TPH = total petroleum hydrocarbons by EPA Method 418.1

Gasoline quantified in the range C6 through C12

Diesel quantified in the range C12 through C26

Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 5 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
HH-2	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	NS	--	--	--
	4	210	NS	--	--	--
	5	940	SS	92	--	--
	6	720	SS	--	--	--
	7	500	SS	--	--	--
HH-3	1	<100	NS	--	--	--
	2	<100	SS	--	--	--
	3	4,400	HS	--	--	--
	4	4,500	MS	5,800	--	--
	5	2,400	MS	--	--	--
	6	2,800	HS	--	--	--
HH-4	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	NS	--	--	--
	4	<100	NS	--	--	--
	5	<100	NS	81	--	--
	6	<100	NS	--	--	--
HH-5	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	NS	--	--	--
	4	3,700	HS	--	--	--
	5	5,200	HS	--	--	--
	6	8,700	HS	320	--	--
HH-6	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	NS	--	--	--
	4	<100	MS	510	--	--
	5	120	NS	--	--	--
	6	<100	NS	--	--	--

Notes:

Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"; "--" indicates "not tested";

"<" indicates "less than"; ">" indicates "greater than"

NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen

TPH = total petroleum hydrocarbons by EPA Method 418.1

Gasoline quantified in the range C6 through C12

Diesel quantified in the range C12 through C26

Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 6 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
HH-7	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	7,200	HS	17,000	--	--
	4	6,200	HS	--	--	--
	5	6,100	HS	--	--	--
	6	4,500	HS	--	--	--
HH-8	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	NS	--	--	--
	4	<100	SS	--	--	--
	5	140	NS	--	--	--
	6	720	NS	--	--	--
	7	820	NS	120	--	--
HH-9	1	<100	SS	--	--	--
	2	<100	MS	--	--	--
	3	430	HS	--	--	--
	4	1,000	HS	--	--	--
	5	9,200	HS	3,400	1,300	1,300
	6	4,000	HS	--	--	--
HH-10	1	<100	NS	--	--	--
	2	<100	SS	--	--	--
	3	<100	NS	--	--	--
	4	<100	SS	--	--	--
	5	1,000	SS	380	--	--
	6	720	SS	--	--	--
	7	450	SS	--	--	--
HH-11	1	<100	SS	--	--	--
	2	<100	NS	--	--	--
	3	<100	SS	--	--	--
	4	660	SS	--	--	--
	5	>10,000	HS	1,400	--	--
	6	5,700	HS	--	--	--

Notes:

Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane

"ppm" indicates "parts per million"; "--" indicates "not tested";

"<" indicates "less than"; ">" indicates "greater than"

NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen

TPH = total petroleum hydrocarbons by EPA Method 418.1

Gasoline quantified in the range C6 through C12

Diesel quantified in thr range C12 through C26

Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 1 (Continued, Page 7 of 7)

Test Pit Number	Sample Depth (ft)	Field Screening		TPH (ppm)	Fuel Hydrocarbons	
		Vapors	Sheen		Gasoline (ppm)	Diesel (ppm)
HH-12	1	<100	NS	--	--	--
	2	<100	SS	--	--	--
	3	<100	NS	--	--	--
	4	300	HS	--	--	--
	5	1,800	HS	--	--	--
	6	2,200	HS	--	--	--
	7	2,800	HS	2,100	--	--
HH-13	1	<100	NS	--	--	--
	2	<100	NS	--	--	--
	3	<100	SS	--	--	--
	4	<100	HS	--	--	--
	5	1,400	HS	--	--	--
	6	4,400	HS	2,400	--	--
	7	2,000	HS	--	--	--
HH-14	1	<100	SS	--	--	--
	2	<100	NS	--	--	--
	3	<100	SS	--	--	--
	4	<100	SS	--	--	--
	5	<100	NS	--	--	--
	6	320	NS	--	--	--
	7	1,800	NS	<1.0	--	--

Notes:
Vapors measured in ppm with a Bacharach TLV Sniffer calibrated to hexane
"ppm" indicates "parts per million"; "--" indicates "not tested";
"<" indicates "less than"; ">" indicates "greater than"
NS = no sheen, SS = slight sheen, MS = moderate sheen, HS = heavy sheen
TPH = total petroleum hydrocarbons by EPA Method 418.1
Gasoline quantified in the range C6 through C12
Diesel quantified in the range C12 through C26
Fuel Hydrocarbons by EPA Method 8015 (modified)

TABLE 5
SUMMARY OF FIELD SCREENING RESULTS
TEST PIT SOIL SAMPLES[1]

Sample Identification[1]	Date Sampled	Depth of Sample[2] (feet)	Field Screening[3]	
			Headspace Vapors (ppm)	Sheen
TP-1	09/10/92	6.0	–	S
TP-2	09/10/92	7.0	–	S
TP-3	09/10/92	6.5	–	S
TP-4	09/10/92	5.5	–	S
TP-5	09/10/92	6.5	–	S
TP-6	09/10/92	6.1	–	S
TP-7	09/10/92	7.7	–	S
TP-8	09/10/92	6.0	–	S
TP-9	09/10/92	6.0	–	S
TP-10	09/10/92	6.0	–	S
TP-11	09/10/92	6.3	–	S
TP-12	09/11/92	6.2	275	S
TP-13	09/11/92	3.0	330	S
TP-14	09/11/92	3.0	74	S
TP-15	09/11/92	3.0	1,381	S
TP-16	09/11/92	7.8	589	S
TP-17	09/11/92	7.6	979	S
TP-18	09/11/92	4.6	1,000	S
TP-19	09/11/92	4.8	254	S
TP-20	09/11/92	4.0	300	S

Notes:

[1]Test pit from which the sample was obtained. Test pit locations are shown in Figure 2.

[2]Approximate depth below ground surface.

[3]Field screening procedures are described in Appendix A. S = sheen observed, NS = no sheen observed, ppm = parts per million

"–" = not tested

TABLE 6
SUMMARY OF SOIL ANALYTICAL DATA
POLYCYCLIC AROMATIC HYDROCARBONS[1]

Sample Identification[2]	Date Sampled	Depth of Sample[3] (feet)	Naphthalene (mg/kg)	Acenaphthylene (mg/kg)	Acenaphthene (mg/kg)	Fluorene (mg/kg)	Phenanthrene (mg/kg)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	Benzo(a) anthracene (mg/kg)	Chrysene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(k)-fluoranthene (mg/kg)	Benzo(a)-pyrene (mg/kg)	Dibenzo(a,h)-anthracene (mg/kg)	Benzo(ghi)-perylene (mg/kg)	Indeno-(1,2,3-cd)-pyrene (mg/kg)
TP-1	09/10/92	6.0	<0.14	<0.069	<0.026	<0.018	0.05	<0.014	0.045	0.05	<0.012	0.022	0.015	<0.011	<0.012	<0.013	<0.03	<0.012
TP-2	09/10/92	7.0	<0.14	<0.069	<0.026	<0.018	<0.019	<0.014	<0.025	<0.014	<0.012	<0.013	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012
TP-3	09/10/92	6.5	0.82	<0.069	<0.026	0.2	0.27	<0.014	<0.025	0.062	0.034	<0.013	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012
TP-4	09/10/92	5.5	2.1	<0.069	<0.026	0.36	0.43	<0.014	<0.025	0.28	0.17	<0.13	<0.13	<0.11	<0.12	<0.13	<0.3	<0.12
TP-5	09/10/92	6.5	1.3	<0.069	<0.026	0.07	0.1	<0.014	0.095	0.13	0.041	0.065	0.036	<0.011	<0.012	<0.013	<0.03	<0.012
TP-6	09/10/92	8.1	1.1	<0.069	<0.26	<0.18	4.3	0.19	<0.25	0.57	0.24	<0.13	<0.13	<0.11	0.14	<0.13	<0.3	<0.12
TP-7	09/10/92	7.7	4.6	<1.4	<0.52	0.44	<0.38	<0.28	<0.50	<0.26	0.17	<0.26	<0.26	<0.22	<0.24	<0.26	<0.6	<0.24
TP-8	09/10/92	6.0	<0.70	<0.35	<0.13	0.13	<0.095	0.11	<0.13	<0.070	<0.060	<0.065	<0.065	<0.055	<0.060	<0.065	<0.15	<0.06
TP-9	09/10/92	6.0	<0.14	<0.069	<0.026	<0.018	<0.019	<0.014	<0.025	<0.014	<0.012	<0.013	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012
TP-10	09/10/92	6.0	0.6	<0.35	<0.13	<0.09	0.19	<0.07	<0.13	0.1	0.07	0.18	0.034	<0.055	<0.06	<0.065	<0.15	<0.060
TP-11	09/10/92	6.3	0.77	<0.14	0.55	0.19	0.38	0.071	0.083	0.11	0.031	0.051	<0.026	<0.022	<0.024	<0.026	<0.060	<0.024
TP-12	09/11/92	6.2	<0.26	<0.14	0.067	0.042	<0.038	<0.026	<0.050	<0.028	<0.024	<0.026	<0.026	<0.022	<0.024	<0.026	<0.06	<0.024
TP-13	09/11/92	3.0	0.24	<0.069	<0.026	0.095	0.089	<0.014	<0.025	0.029	<0.012	0.029	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012
TP-14	09/11/92	3.0	<0.28	<0.14	0.054	0.037	0.067	<0.026	<0.050	0.035	<0.024	<0.026	<0.026	<0.022	<0.024	<0.026	<0.060	<0.024
TP-15	09/11/92	3.0	<7.0	<3.5	<1.3	3.7	4	<0.7	<1.3	<0.7	<0.6	<0.65	<0.65	<0.55	<0.6	<0.65	<1.5	<0.6
TP-16	09/11/92	7.6	<0.7	<0.35	0.9	1.9	3.4	<0.07	<0.13	0.48	0.11	<0.065	<0.065	<0.055	<0.06	<0.065	<0.15	<0.06
TP-17	09/11/92	7.6	0.32	<0.69	<0.26	1.5	3	<0.14	<0.25	0.48	0.26	0.33	<0.13	<0.11	<0.12	<0.13	<0.3	<0.12
TP-18	09/11/92	4.8	<0.7	<0.35	<0.13	<0.09	<0.095	<0.07	<0.13	<0.07	<0.06	<0.065	<0.065	<0.055	<0.06	<0.065	<0.15	<0.06
TP-19	09/11/92	4.8	<0.14	<0.069	<0.026	<0.018	<0.019	<0.014	<0.025	<0.014	<0.012	<0.013	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012
TP-20	09/11/92	4.0	<0.14	<0.069	<0.026	<0.018	<0.019	<0.014	<0.025	<0.014	<0.012	<0.013	<0.013	<0.011	<0.012	<0.013	<0.03	<0.012

Notes:

[1]Polycyclic aromatic hydrocarbons by EPA Method 8310.

[2]The sample identification indicates the test pit from which the sample was obtained. Test pit locations are shown in Figure 2.

[3]Approximate depth below ground surface.

mg/kg = milligrams per kilogram. Chemical analyses performed by GTEL. Laboratory reports in Appendix C.

TABLE 7
SUMMARY OF SOIL ANALYTICAL DATA
PRIORITY POLLUTANT METALS

Sample Identification[1]	Date Sampled	Depth of Sample[2] (feet)	Priority Pollutant Metals[3] (milligrams per kilogram)												
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
TP-1	09/10/92	6.0	<5	3.9	<1	<1	12	11	42	<0.1	11	<5	<2.5	<5	48
TP-2	09/10/92	7.0	<5	1.3	<1	<1	11	9	8	<0.1	13	<5	<2.5	<5	21
TP-3	09/10/92	6.5	<5	1.3	<1	<1	13	9	9	<0.1	11	<5	<2.5	<5	24
TP-4	09/10/92	5.5	<5	1.4	<1	<1	14	8	13	<0.1	9	<5	<2.5	<5	28
TP-5	09/10/92	6.5	<5	1.3	<1	<1	10	9	9	<0.1	9	<5	<2.5	<5	24
TP-6	09/10/92	8.1	<5	0.9	<1	<1	10	10	49	<0.1	8	<5	<2.5	<5	65
TP-7	09/10/92	7.6	<5	1.4	<1	<1	13	11	72	<0.1	91	<5	<2.5	<5	71
TP-8	09/10/92	6.0	<5	1.3	<1	<1	9	10	14	<0.1	8	<5	<2.5	<5	24
TP-9	09/10/92	6.0	<5	1.2	<1	<1	8	7	8	<0.1	<5	<5	<2.5	<5	71
TP-10	09/10/92	6.0	<5	1.8	<1	<1	13	13	99	<0.1	12	<5	<2.5	<5	69
TP-11	09/10/92	6.4	<5	1.6	<1	<1	10	10	100	<0.1	9	<5	<2.5	<5	42
TP-12	09/11/92	6.2	<5	1.3	<1	<1	10	9	8	<0.1	7	<5	<2.5	<5	33
TP-13	09/11/92	3.0	<5	1.3	<1	<1	8	8	7	<0.1	7	<5	<2.5	<5	22
TP-14	09/11/92	3.0	<5	1.9	<1	<1	15	13	10	<0.1	9	<5	<2.5	<5	25
TP-15	09/11/92	3.1	<5	1.2	<1	<1	11	10	10	0.1	9	<5	<2.5	<5	24
TP-16	09/11/92	7.6	<5	1.4	<1	<1	12	9	7	<0.1	9	<5	<2.5	<5	22
TP-17	09/11/92	7.8	<5	1.5	<1	<1	10	9	8	<0.1	7	<5	<2.5	<5	23
TP-18	09/11/92	4.6	<5	1.4	<1	<1	8	10	6	<0.1	7	<5	<2.5	<5	19
TP-19	09/11/92	4.6	<5	1.6	<1	<1	8	9	8	<0.1	6	<5	<2.5	<5	22
TP-20	09/11/92	4.0	<5	2.8	<1	<1	12	22	310	<0.1	14	<5	<2.5	<5	340

Notes:

[1]Test pit from which the sample was obtained. Test pit locations are shown in Figure 2.

[2]Approximate depth below ground surface.

[3]Priority Pollutant Metals by EPA Methods 6010 and 7471.

Chemical analyses performed by GTEL. Laboratory reports are contained in Appendix D.

TABLE 8
SUMMARY OF SOIL ANALYTICAL DATA
TOTAL ORGANIC CARBON AND 1,2-DIBROMOETHANE

Sample Identification[1]	Date Sampled	Depth of Sample[2] (feet)	Hydrogeologic Unit[3]	Total Organic Carbon[4] (mg/kg)	1,2-Dibromoethane[5] (mg/kg)
TP-1	09/10/92	6.0	Fill aquifer	1,400	–
TP-2	09/10/92	7.0	Fill aquifer	1,800	–
TP-3	09/10/92	6.5	Fill aquifer	2,500	–
TP-4	09/10/92	5.5	Fill aquifer	6,200	–
TP-5	09/10/92	6.5	Fill aquifer	5,800	–
TP-6	09/10/92	8.1	Fill aquifer	9,500	–
TP-7	09/10/92	7.7	Fill aquifer	7,700	–
TP-8	09/10/92	6.0	Fill aquifer	2,700	–
TP-9	09/10/92	6.0	Fill aquifer	1,100	–
TP-10	09/10/92	6.0	Fill aquifer	4,000	–
TP-11	09/10/92	6.3	Fill aquifer	8,700	–
TP-12	09/10/92	6.2	Fill aquifer	1,400	–
TP-13	09/11/92	3.0	Fill aquifer	2,500	–
TP-14	09/11/92	3.0	Fill aquifer	5,500	–
TP-15	09/11/92	3.0	Fill aquifer	44,000	–
TP-16	09/11/92	7.8	Fill aquifer	5,500	–
TP-17	09/10/92	7.8	Fill aquifer	12,000	–
TP-18	09/10/92	4.8	Fill aquifer	700	–
TP-19	09/10/92	4.8	Fill aquifer	800	–
TP-20	09/10/92	4.0	Fill aquifer	11,000	<0.02
B-1	09/14/92	8.0	Silt aquitard	24,000	–
B-2	09/14/92	8.0	Silt aquitard	16,000	–
B-3	09/29/92	8.0	Silt aquitard	17,000	–
D-2A[6]	09/29/92	10.5	Silt aquitard	16,000	–

Notes:

[1] Test pit or boring from which the sample was obtained. Test pit and boring locations are shown in Figure 2.

[2] Approximate depth below ground surface.

[3] Indicates the hydrogeologic unit from which the soil sample was obtained. See text for discussion of the hydrogeologic units.

[4] Total organic carbon by EPA Method 9060.

[5] 1,2-Dibromoethane (EDB) by EPA Method 504.

[6] Field and laboratory identification for this sample is D-2.

mg/kg = milligrams per kilogram; "–" = not tested

Chemical analyses performed by STL. Laboratory reports are contained in Appendix D.

Soil Data - 2010-2021

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Naphthalene (mg/kg)	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Moisture (%)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**TEQ = 0.1***							**NCE**	**250**
SB-1-6-S-100706	07/06/2010	<1.7	30	< 14	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-13-S-100707	07/07/2010	< 21	< 4.5	20	0.007	< 0.001	< 0.001	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-2-6-S-100706	07/06/2010	**270**	1300	200	< 0.036	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-2-12-S-100707	07/07/2010	21	48	73	0.005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-4.5-S-100706	07/07/2010	< 15	110	120	0.003	0.007	< 0.001	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-12-S-100707	07/06/2010	< 21	11	110	0.001	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-8-S-100708	07/08/2010	27	9.3	< 14	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-10-S-100708	07/08/2010	13	16	86	0.002	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-5.5-S-100706	07/06/2010	**3100**	1800	200	< 0.03	< 0.06	0.097	< 0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-11-S-100707	07/07/2010	< 28	6.0	43	< 0.0009	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-6-6-S-100707	07/07/2010	**640**	63	21	< 0.031	< 0.062	< 0.062	< 0.062	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-6-11-S-100707	07/07/2010	< 20	5.1	38	0.0008	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-7-4-S-100707	07/07/2010	**3000**	**5300**	< 640	< 0.09	< 0.18	< 0.18	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-7-14-S-100707	07/07/2010	11	< 4.2	18	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-8-6-S-100707	07/07/2010	**520**	240	130	< 0.031	< 0.063	< 0.063	< 0.063	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-8-12-S-100707	07/07/2010	< 16	17	140	0.007	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-9-7.5-S-100707	07/07/2010	**310**	**3400**	1100	< 0.035	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-9-11-S-100708	07/08/2010	7.5	8.8	< 12	0.01	0.002	0.004	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-10-13-S-100708	07/08/2010	< 20	< 4.4	17	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-11-6-S-100707	07/07/2010	**1400**	420	400	< 0.04	< 0.079	0.71	0.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-11-13-S-100707	07/07/2010	< 1.7	6.3	30	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-12-2-S-100708	07/08/2010	6.9	700	1300	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-12-4-S-100708	07/08/2010	**55**	94	97	0.002	0.002	0.002	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-13-4-S-100708	07/08/2010	< 20	150	310	0.005	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-13-5-S-100708	07/08/2010	< 17	880	260	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-13-11-S-100708	07/08/2010	< 20	< 4.5	24	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-14-4-S-100708	07/08/2010	< 14	150	360	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-14-6-S-100708	07/08/2010	**56**	330	90	0.0009	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-14-12-S-100708	07/08/2010	1.8	< 4.4	< 15	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-15-4-S-100709	07/09/2010	< 18	280	130	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-15-6-S-100709	07/09/2010	**130**	210	< 14	< 0.041	< 0.081	< 0.081	< 0.081	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-15-9-S-100709	07/09/2010	11	1200	< 130	0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-15-12-S-100709	07/09/2010	< 1.7	< 4.3	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-16-2-S-100709	07/09/2010	< 18	400	910	0.003	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-16-8-S-100709	07/09/2010	**200**	130	120	< 0.001	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-16-11-S-100709	07/09/2010	< 1.7	< 3.9	< 13	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-16-13-S-100709	07/09/2010	< 1.4	< 3.7	< 12	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-17-2-S-100709	07/09/2010	**5600**	**19000**	**16000**	< 0.1	< 0.21	< 0.21	0.86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-17-13-S-100709	07/09/2010	15	7.5	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-17-15-S-100709	07/09/2010	< 1.3	< 3.8	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-19-2-S-101025	10/25/2010	< 1.2	< 3.3	< 11	0.006	0.006	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-19-4-S-101025	10/25/2010	12	610	150	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-19-6-S-101025	10/25/2010	**1400**	490	< 67	< 0.037	< 0.073	< 0.073	< 0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-19-11-S-101025	10/25/2010	23	18	56	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-20-4-S-101025	10/25/2010	< 1.3	42	180	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-20-6-S-101025	10/25/2010	**900**	1600	< 130	< 0.037	< 0.073	< 0.073	< 0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-20-10-S-101025	10/25/2010	**78**	150	< 63	0.002	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-20-11-S-101025	10/25/2010	11	14	< 13	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-21-4-S-101025	10/25/2010	< 13	480	< 210	0.002	0.002	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-21-6-S-101025	10/25/2010	**2500**	**2300**	< 130	< 0.037	< 0.074	0.076	< 0.074	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-21-11-S-101025	10/25/2010	1.7	9.4	< 13	0.006	< 0.001	0.002	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-22-2-S-101026	10/26/2010	< 12	74	110	**0.062**	0.072	< 0.001	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-22-4-S-101026	10/26/2010	**5100**	**6000**	< 570	< 0.034	< 0.067	3.2	0.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-22-6-S-101026	10/26/2010	**2900**	**5300**	< 330	< 0.037	0.082	4.1	0.58	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-22-10-S-101026	10/26/2010	16	11	69	0.015	< 0.002	0.003	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-23-2-S-101025	10/25/2010	< 48	430	1300	**0.054**	0.091	0.003	0.039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-23-4-S-101025	10/25/2010	< 11	460	1500	**0.052**	0.075	0.001	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-23-6-S-101025	10/25/2010	**650**	**4400**	< 310	< 0.034	< 0.068	< 0.068	< 0.068	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-23-11-S-101025	10/25/2010	**64**	29	< 13	0.025	0.003	0.002	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-24-2-S-101026	10/26/2010	< 12	420	1600	0.007	0.009	< 0.001	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-24-4-S-101026	10/26/2010	< 18	310	210	0.0007	0.002	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-24-6-S-101026	10/26/2010	**1400**	720	240	< 0.032	< 0.064	< 0.064	< 0.064	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-24-10-S-101026	10/26/2010	13	7.7	< 13	0.013	0.003	< 0.001	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-25-4-S-101026	10/26/2010	< 13	230	350	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-25-6-S-101026	10/26/2010	**580**	**2000**	300	0.0009	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-25-10-S-101026	10/26/2010	**670**	310	37	< 0.033	< 0.066	< 0.066	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-25-11-S-101026	10/26/2010	19	14	< 13	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-26-2-S-101026	10/26/2010	1.6	7.9	93	0.003	0.002	< 0.001	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-26-6-S-101026	10/26/2010	12	160	400	0.011	0.021	0.001	0.013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Naphthalene (mg/kg)	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Moisture (%)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**TEQ = 0.1***							**NCE**	**250**
SB-26-11-S-101026	10/26/2010	3.2	4.8	19	0.002	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-28-2-S-101027	10/27/2010	< 13	510	280	0.006	0.008	< 0.001	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-28-6-S-101027	10/27/2010	**170**	580	410	0.003	0.005	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-28-9-S-101027	10/27/2010	**62**	570	1500	0.005	0.011	< 0.001	0.008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-28-11-S-101027	10/27/2010	7.7	40	86	0.013	0.003	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-29-2-S-101027	10/27/2010	**310**	210	190	0.002	0.002	< 0.001	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-29-4-S-101027	10/27/2010	**1100**	300	120	< 0.036	< 0.072	< 0.072	< 0.072	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-29-6-S-101027	10/27/2010	**540**	260	270	< 0.16	< 0.32	< 0.32	< 0.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-29-7-S-101027	10/27/2010	**580**	230	140	< 0.03	< 0.06	< 0.06	< 0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-30-2-S-101027	10/27/2010	**6700**	**6600**	**2900**	< 0.12	< 0.24	< 0.24	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-30-4-S-101027	10/27/2010	**910**	580	200	< 0.038	< 0.076	< 0.076	< 0.076	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-30-8-S-101027	10/27/2010	**43**	13	35	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-30-10-S-101027	10/27/2010	< 2	< 4.7	< 16	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31-2-S-101027	10/27/2010	**5300**	**9500**	**2200**	**0.11**	< 0.087	0.21	0.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31-4-S-101027	10/27/2010	**730**	1300	370	< 0.035	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31-9-S-101027	10/27/2010	< 2	< 4.7	< 16	< 0.0007	0.002	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31-11-S-101027	10/27/2010	< 18	< 4.5	< 15	< 0.0007	0.002	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-32-2-S-101027	10/27/2010	**2000**	**4600**	**2300**	< 0.033	< 0.067	< 0.067	< 0.067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-32-6-S-101027	10/27/2010	**200**	280	140	< 0.032	< 0.064	< 0.064	< 0.064	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-32-8-S-101027	10/27/2010	**130**	140	66	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-32-10-S-101027	10/27/2010	< 1.7	< 4.3	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-33-2-S-101028	10/28/2010	**32000**	**3300**	**2500**	0.001	0.002	0.002	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-33-6-S-101028	10/28/2010	**540**	1000	920	< 0.031	< 0.062	< 0.062	< 0.062	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-33-9-S-101028	10/28/2010	23	92	89	0.0009	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-33-11-S-101028	10/28/2010	< 15	< 4.3	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-34-2-S-101028	10/28/2010	< 11	23	74	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-34-6-S-101028	10/28/2010	**770**	1200	160	< 0.033	< 0.066	< 0.066	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-34-9-S-101028	10/28/2010	< 36	7.7	< 24	< 0.001	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-34-10-S-101028	10/28/2010	< 21	< 4.7	52	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-35-4-S-101028	10/28/2010	< 14	38	120	0.003	0.001	< 0.0009	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-35-6-S-101028	10/28/2010	**97**	500	750	0.002	0.004	0.002	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-35-8-S-101028	10/28/2010	**30**	14	24	0.0009	< 0.001	< 0.001	0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-35-10-S-101028	10/28/2010	24	18	26	0.001	< 0.001	< 0.001	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-36-6-S-101028	10/28/2010	**200**	21	< 12	0.005	0.001	< 0.001	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-36-11-S-101028	10/28/2010	3.3	**4600**	760	0.0008	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-37-6-S-101028	10/28/2010	**1400**	< 3.6	< 12	< 0.032	< 0.063	< 0.063	< 0.063	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-37-11-S-101028	10/28/2010	13	22	< 14	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-38-4	06/27/2012	1.3	8.3	21	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-38-5	06/27/2012	<1.1	5.8	32	<0.0005	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-39-4	06/27/2012	<1.1	13	140	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-39-6	06/27/2012	<1.3	<3.1	<10	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-40-3	06/27/2012	<1.1	5.5	27	0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-40-4.5	06/27/2012	<1.2	<3.2	<11	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-41-4	06/27/2012	<1.3	<3.2	<11	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-41-6	06/27/2012	<1.3	<3.2	<11	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-42-4	06/27/2012	<1.2	<3.1	<10	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-42-6	06/27/2012	<1.2	<3.2	<11	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-43-4	06/27/2012	<1.2	<3.2	<11	0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-43-6	06/27/2012	<1.3	5.7	25	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-44-4	06/27/2012	<1.2	<3.1	<10	0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-44-6	06/27/2012	<1.3	<3.3	<11	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-45-4	06/27/2012	<1.2	6.7	12	0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-45-6	06/27/2012	1.2	130	500	0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-46-5	07/08/2013	**410**	NA	970	0.007	0.017	< 0.001	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-46-7	07/08/2013	**630**	NA	< 28	< 0.041	< 0.082	< 0.082	< 0.082	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-46-10	07/11/2013	< 4.3	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-46-13	07/11/2013	< 4.4	NA	< 15	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-47-4	07/08/2013	**320**	NA	670	0.015	0.034	0.001	0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-47-6	07/08/2013	**320**	NA	650	0.002	0.005	< 0.0009	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-47-7	07/08/2013	**310**	NA	650	0.004	0.007	< 0.0009	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-47-10	07/11/2013	< 4.5	NA	< 15	0.009	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-47-13	07/11/2013	< 4.2	NA	< 14	0.003	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-48-4	07/08/2013	**270**	NA	540	0.022	0.019	< 0.001	0.009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-48-5	07/08/2013	**2000**	NA	1300	0.01	0.033	0.002	0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-48-7	07/08/2013	**170**	NA	170	0.003	0.005	< 0.001	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-48-9	07/11/2013	< 4.6	NA	< 15	0.002	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-48-11	07/11/2013	< 4.4	NA	< 15	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-49-1	07/08/2013	**270**	NA	770	0.005	0.009	< 0.001	0.004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-49-2	07/08/2013	**160**	NA	250	0.004	0.01	0.002	0.009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Naphthalene (mg/kg)	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Moisture (%)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**TEQ = 0.1***							**NCE**	**250**
SB-49-3	07/08/2013	< 4.1	NA	< 14	0.002	0.002	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-50-1	07/08/2013	**87**	NA	180	0.003	0.005	< 0.0009	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-50-2	07/08/2013	**1200**	NA	< 65	< 0.0006	< 0.001	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-50-4	07/08/2013	< 4.4	NA	< 15	0.004	0.001	0.002	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-51-3	07/09/2013	< 3.5	NA	< 12	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-51-4	07/09/2013	< 4	NA	< 13	0.001	< 0.001	0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-51-10	07/11/2013	< 4.1	NA	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-51-12	07/11/2013	< 3.8	NA	< 13	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-52-4	07/09/2013	< 3.3	NA	< 11	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-52-8	07/11/2013	< 4.1	NA	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-52-11	07/11/2013	< 4.1	NA	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-53-2.5	07/09/2013	**3400**	NA	1800	< 0.028	< 0.057	< 0.057	< 0.057	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-53-4	07/09/2013	**4300**	NA	**2600**	< 0.031	< 0.062	< 0.062	< 0.062	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-53-9	07/11/2013	< 4.1	NA	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-53-12	07/11/2013	< 4.3	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-54-4	07/09/2013	**9800**	NA	**3700**	< 0.03	< 0.06	< 0.06	< 0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-54-6	07/09/2013	**300**	NA	120	< 0.038	< 0.075	< 0.075	< 0.075	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-54-9	07/11/2013	< 4.6	NA	< 15	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-54-13	07/11/2013	< 4.4	NA	< 15	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-55-3	07/09/2013	< 3.1	NA	< 10	0.001	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-55-5	07/09/2013	**16000**	NA	< 1100	< 0.03	< 0.059	< 0.059	< 0.059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-55-8	07/11/2013	< 4.7	NA	< 16	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-55-11	07/11/2013	4.7	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-56-2	07/10/2013	7.5	NA	< 10	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-56-5	07/10/2013	< 3.8	NA	< 13	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-56-8	07/11/2013	< 4.6	NA	< 15	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-56-12	07/11/2013	< 3.8	NA	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-57-3	07/10/2013	**96**	NA	27	0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-57-4	07/10/2013	**390**	NA	< 13	< 0.075	< 0.15	< 0.15	< 0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-57-9	07/12/2013	< 4.5	NA	< 15	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-57-13	07/12/2013	< 3.9	NA	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-58-2	07/10/2013	**340**	NA	900	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-58-4	07/10/2013	**3600**	NA	**2300**	< 0.038	< 0.075	< 0.075	< 0.075	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-58-9	07/11/2013	< 4.9	NA	< 16	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-58-12	07/11/2013	< 3.7	NA	< 12	0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-59-3	07/10/2013	**240**	NA	< 11	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-59-5	07/10/2013	**6000**	NA	< 270	< 0.038	< 0.076	< 0.076	< 0.076	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-59-9	07/12/2013	< 4.3	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-59-12	07/12/2013	< 4.2	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-60-4	07/10/2013	**250**	NA	88	0.003	0.005	< 0.001	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-60-7	07/10/2013	**8400**	NA	< 350	< 0.04	< 0.08	< 0.08	< 0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-60-9	07/12/2013	< 4.7	NA	< 16	0.018	< 0.001	0.002	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-60-13	07/12/2013	< 4.2	NA	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-61-5.0	07/09/2014	< 1.6	13	50	0.002	0.003	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	NA
SB-62-5.0	07/09/2014	< 1.2	< 3.2	< 11	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.3	NA
SB-63-5.0	07/09/2014	< 1.4	32	25	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.5	NA
SB-64-5.0	07/09/2014	< 1.6	< 3.9	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.9	NA
SB-65-5.0	07/10/2014	1.7	< 4.1	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.6	NA
SB-66-5.0	07/10/2014	< 1.4	< 3.8	< 13	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2	NA
SB-67-5.0	07/10/2014	< 1.7	< 4.1	< 14	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.2	NA
SB-68-5.0	07/10/2014	< 1.6	< 4.1	< 14	< 0.0008	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.4	NA
SB-69-5.0	07/10/2014	< 1.5	4.4	< 13	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.5	NA
SB-70-5.0	07/10/2014	< 1.6	< 4.1	< 14	< 0.0007	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.8	NA
SB-71-5.0	07/10/2014	< 1.3	< 3.7	< 12	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.9	NA
SB-72-5.5	10/23/2017	**610**	**4700**	**3000**	< 0.027	< 0.055	< 0.055	< 0.055	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-72-15.0	10/24/2017	< 2.2	< 5.2	22	<0.002	< 0.002	< 0.002	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-72-20.0	10/24/2017	< 1.4	< 3.8	< 13	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-73-6.0	10/23/2017	**1100**	**2600**	1400	< 0.032	< 0.064	< 0.064	< 0.064	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-73-8.0	10/23/2017	**730**	1100	730	< 0.036	< 0.073	0.15	< 0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-73-10.0	10/23/2017	**510**	1800	920	< 0.034	<0.069	< 0.069	< 0.069	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-74-6.0	10/23/2017	**1400**	**2100**	1300	< 0.033	< 0.066	< 0.066	< 0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-74-8.5	10/23/2017	**710**	700	370	< 0.035	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-75-5.0	10/25/2017	**1100**	1400	< 67	< 0.036	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-75-17.0	10/25/2017	2.3	7.2	20	0.003	0.002	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-76-6.5	10/24/2017	**380**	640	710	< 0.026	< 0.052	< 0.052	< 0.052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-76-8.0	10/24/2017	**140**	740	740	< 0.035	< 0.071	< 0.071	< 0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-76-20.0	10/25/2017	< 1.5	< 4.0	< 13	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-77-6.0	10/24/2017	**1900**	1000	41	< 0.034	< 0.068	0.15	< 0.068	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-77-15.0	10/25/2017	< 1.5	< 4.0	< 13	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Naphthalene (mg/kg)	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Moisture (%)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**TEQ = 0.1***							**NCE**	**250**
SB-78.6.0	10/24/2017	**340**	**3300**	< 260	< 0.034	< 0.067	< 0.067	< 0.067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-78-8.0	10/24/2017	**630**	1200	250	< 0.033	< 0.067	< 0.067	< 0.067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-78-14.0	10/25/2017	< 1.4	< 4.0	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-6-2-2	07/26/2010	<15	78	190	**0.033**	0.023	<0.002	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-6-8-8	07/26/2010	<1.7	<3.8	<13	0.0007	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-6-9-9	07/28/2010	<22	5	<16	0.002	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-7-2-2	07/27/2010	<1.7	5.1	29	<0.0007	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-7-6-6	07/27/2010	4.9	10	<12	<0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-7-8-8	07/27/2010	<18	<4.3	44	0.001	<0.002	<0.002	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-7-9-9	07/27/2010	<19	4.8	19	<0.0007	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-8-S-6-190110	01/10/2019	< 0.4	< 5.3	< 13	0.0006	0.005	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	24.4	NA
D-8-S-14.5-190110	01/10/2019	1	6.7	< 12	< 0.0005	< 0.0006	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	17.2	NA
D-9-S-6.0	1/14/2019	1.4	< 9.2	37	< 0.001	< 0.001	< 0.001	< 0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-9-S-13.0	1/14/2019	1.9	< 13	< 5.3	< 0.0006	< 0.0007	< 0.0004	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-10-S-6-180726	07/26/2018	7.9	4.2	< 13	< 0.0006	< 0.001	< 0.001	< 0.001	< 0.0006	< 0.001	0.003	0.005	0.002	0.003	0.005	< 0.0009	0.002	26.1	NA
D-10-S-11-180727	07/27/2018	28	< 4.2	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	< 0.0006	< 0.001	< 0.0009	< 0.0009	< 0.0009	0.0006	< 0.0009	< 0.0009	< 0.0009	29.2	NA
D-10-S-15-180727	07/27/2018	0.6	< 3.7	< 12	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001	< 0.0008	< 0.0008	< 0.0008	0.001	< 0.0008	< 0.0008	< 0.0008	20	NA
D-12-S-5.5-190114	01/14/2019	< 0.3	< 4.6	< 12	0.001	< 0.0009	< 0.0006	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	15	NA
D-12-S-9-190114	01/14/2019	1.2	8.8	56	0.003	< 0.0009	< 0.0006	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	30.5	NA
D-14-S-32.0	10/27/2017	< 1.3	< 3.6	< 12	< 0.0005	< 0.001	< 0.001	< 0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-15-S-5.5-190111	01/11/2019	< 3	1500	560	< 0.0005	0.0008	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	22	NA
D-15-S-8-190111	01/11/2019	**36**	< 5.4	33	0.0008	0.002	0.001	0.003	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	26.7	NA
D-15-S-16-190111	01/11/2019	< 0.3	< 5.3	< 13	< 0.0006	< 0.0007	< 0.0005	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	25.7	NA
D-17-S-5-190115	01/15/2019	0.6	< 5	< 13	< 0.0005	< 0.0006	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	20.3	NA
D-17-S-9-190115	01/15/2019	< 3.8	< 5.6	< 14	< 0.0007	< 0.0008	< 0.0005	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	29.2	NA
D-18-S-6-190115	01/15/2019	2.2	< 6.2	19	< 0.0007	0.002	< 0.0006	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	36.2	NA
D-19-S-6-190114	01/14/2019	1.4	< 9.2	37	< 0.001	< 0.001	< 0.001	< 0.002	NA	< 0.005	NA	NA	NA	NA	NA	NA	NA	57	NA
D-19-S-8.5-190110	01/10/2019	< 1	< 5.6	32	< 0.0006	0.0008	< 0.0005	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	28.7	NA
D-19-S-13-190114	01/14/2019	1.9	< 5.3	< 13	< 0.0006	< 0.0007	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	24.7	NA
D-19-S-18-190110	01/10/2019	< 0.3	< 5.4	< 13	< 0.0005	< 0.0006	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	25.8	NA
D-22-S-4.0-210209	02/09/2021	< 0.23	< 4.3	< 11	0.00093 J	< 0.00061	< 0.00041	< 0.0014	< 0.00051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-22-S-19.5-210209	02/09/2021	< 0.31	< 5.2	< 13	< 0.00056	< 0.00067	< 0.00045	< 0.0016	< 0.00056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-24-S-19.5-210109	01/09/2021	1.1	< 4.6	< 11	< 0.00067	< 0.0008	< 0.00053	< 0.0019	< 0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-25-S-19.5-210109	01/09/2021	0.46 J	< 4.9	< 12	< 0.00053	< 0.00064	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-26-S-19.5-210110	01/10/2021	0.5 J	< 4.8	< 12	0.00087 J	< 0.00063	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-27-S-4.0-210210	02/10/2021	< 0.23	< 4.3	14 J	< 0.00053	< 0.00063	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-27-S-8.5-210210	02/10/2021	2.4 J	9 J	45	< 0.00075	< 0.0009	< 0.0006	< 0.0021	< 0.00075	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-27-S-12.5-210210	02/10/2021	3.9 J	< 5.8	14 J	< 0.00063	< 0.00075	< 0.0005	< 0.0018	< 0.00063	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-27-S-19.5-210210	02/10/2021	< 0.29	< 5	< 13	< 0.00053	< 0.00063	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18-2-2	07/26/2010	<1.7	<3.8	<13	<0.0007	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18-6-6	07/26/2010	2.4	44	<14	0.002	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18-8-8	07/26/2010	2.9	20	<13	0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.35
MW-18-8.5-8.5	07/28/2010	<11	48	80	0.018	0.007	<0.001	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18-8.5-8.5	07/28/2010	<11	48	80	0.018	0.007	<0.001	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-19-2-2	07/26/2010	1.9	26	87	0.003	0.002	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-19-4-4	07/26/2010	**5000**	**4800**	<620	<0.0961	<0.19	0.44	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7
MW-19-8-8	07/26/2010	**1800**	730	<64	<0.0991	<0.20	0.34	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-19-9-9	07/27/2010	**130**	140	34	0.005	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20-2-2	07/26/2010	**3300**	**37000**	**20000**	**9.3**	0.84	**8.7**	**18**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20-4-4	07/26/2010	**4000**	**12000**	<2700	**1.9**	<0.89	1.8	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20-8-8	07/26/2010	**820**	1100	<310	**0.43**	<0.14	0.82	0.36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20-8.5-8.5	07/27/2010	**45**	590	230	**0.067**	0.005	0.024	0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20-9.5-9.5	07/27/2010	<24	<4.8	<16	0.026	<0.002	<0.002	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21-2-2	07/26/2010	<501	470	1200	0.0008	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21-4-4	07/26/2010	<1.1	27	73	0.003	0.004	<0.001	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21-6-6	07/26/2010	**280**	440	<65	0.0006	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21-9-9	07/27/2010	<20	59	49	0.007	0.003	0.004	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22-2-2	07/27/2010	<4.7	110	250	<0.0007	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22-4-4	07/27/2010	<12	120	340	0.0009	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22-8-8	07/27/2010	23	5.9	<19	0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-25-S-6.5-180726	07/26/2018	**5700**	62	15	< 0.075	< 0.15	< 0.15	< 0.15	< 0.075	< 0.15	< 0.004	0.007	< 0.004	0.008	0.007	< 0.004	0.007	25	NA
MW-25-S-10-180727	07/27/2018	1.1	< 4.3	31	< 0.0006	< 0.001	< 0.001	< 0.001	< 0.0006	< 0.001	0.001	0.003	0.001	0.004	0.002	< 0.0009	0.003	30.2	NA
MW-30-S-6-190115	01/15/2019	7.7	290	270	< 0.0006	0.001	< 0.0005	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	23.2	NA
MW-30-S-9-190115	01/15/2019	< 4	< 5.6	20	< 0.0007	0.001	< 0.0005	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	29.9	NA
MW-32-S-5-190115	01/15/2019	**1100**	200	28	< 0.031	< 0.037	< 0.025	< 0.062	NA	< 0.12	NA	NA	NA	NA	NA	NA	NA	20.3	NA
MW-32-S-7.5-190116	01/16/2019	12	< 5.3	< 13	< 0.036	< 0.043	< 0.029	< 0.072	NA	< 0.14	NA	NA	NA	NA	NA	NA	NA	24.9	NA
MW-36-S-4-210109	01/09/2021	0.3 J	< 4.5	18 J	0.00059 J	< 0.00058	< 0.00039	< 0.0014	< 0.00049	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-36-S-6-210109	01/09/2021	0.76 J	11 J	59	< 0.00061	< 0.00073	< 0.00048	< 0.0017	< 0.00061	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-36-S-8-210109	01/09/2021	7.8 J	320	100 J	0.00087 J	0.0011 J	0.00069 J	0.006 J	< 0.00056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Naphthalene (mg/kg)	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Moisture (%)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**TEQ = 0.1***							**NCE**	**250**
MW-37-S-4-210109	01/09/2021	1.6 J	24	200	0.00089 J	0.0018 J	0.00044 J	< 0.0014	< 0.00049	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-38-S-4-210109	01/09/2021	2.9 J	56	590	0.001 J	0.0017 J	< 0.00048	< 0.0017	< 0.00059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-38-S-7.5-210109	01/09/2021	12 J	19	110	0.0012 J	0.0052 J	< 0.00074	< 0.0026	< 0.00092	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-1-S-5-190109	01/09/2019	< 0.3	< 4.9	20	0.001	0.001	< 0.0004	< 0.0009	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	20	NA
OB-1-S-8.5-190109	01/09/2019	4.7	< 4.9	< 12	0.0007	0.001	< 0.0004	< 0.0009	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	17.7	NA
OB-2-S-5-190109	01/09/2019	< 3.2	< 5	< 12	0.0009	0.0009	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	20.5	NA
OB-2-S-6.5-190109	01/09/2019	< 2.9	< 5	< 12	0.0008	0.001	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	19.5	NA
OB-2-S-9-190109	01/09/2019	7.3	< 6.1	< 15	0.002	0.002	< 0.0006	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	34.8	NA
OB-3-S-6.5-190109	01/09/2019	4	< 4.9	< 12	0.003	0.001	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	19.8	NA
OB-3-S-4.5-190109	01/09/2019	< 0.3	< 5.2	14	0.0007	0.001	< 0.0004	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	24	NA
OB-3-S-10.5-190109	01/09/2019	1.4	< 5.6	< 14	0.002	0.0008	< 0.0005	< 0.001	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	29.3	NA
OB-4-S-4.5-190109	01/09/2019	**4000**	**2800**	180	< 0.071	< 0.085	< 0.057	< 0.14	NA	< 0.28	NA	NA	NA	NA	NA	NA	NA	24.5	NA
OB-4-S-11.5-190109	01/09/2019	< 3.8	< 5.7	< 14	< 0.0006	0.0008	< 0.0005	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	30.1	NA
OB-4-S-8-190109	01/09/2019	22	110	< 13	0.001	< 0.0006	0.0006	< 0.001	NA	< 0.002	NA	NA	NA	NA	NA	NA	NA	25.8	NA
OB-5-S-5-190109	01/09/2019	**680**	**11000**	< 1300	< 0.036	< 0.043	< 0.029	< 0.071	NA	< 0.14	NA	NA	NA	NA	NA	NA	NA	25.9	NA
OB-5-S-7-190109	01/09/2019	**1200**	**5900**	< 250	< 0.032	< 0.038	< 0.026	< 0.064	NA	< 0.13	NA	NA	NA	NA	NA	NA	NA	21.5	NA
OB-5-S-10-190109	01/09/2019	3.1	< 6	30	0.001	0.002	0.001	0.003	NA	< 0.003	NA	NA	NA	NA	NA	NA	NA	33.5	NA
OB-6-S-5.5-180726	07/26/2018	**5600**	210	< 13	< 0.035	< 0.071	< 0.071	< 0.071	< 0.035	0.15	0.003	0.006	0.003	0.006	0.006	0.001	0.005	25.8	NA
OB-6-S-10-180727	07/27/2018	0.9	< 4.1	25	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001	< 0.0009	0.001	< 0.0009	0.002	< 0.0009	< 0.0009	0.002	26.8	NA
OB-7-S-5.5-180726	07/26/2018	**7100**	180	< 14	< 0.38	< 0.75	< 0.75	< 0.75	< 0.38	1.8	0.006	0.011	0.005	0.01	0.011	0.002	0.01	26.3	NA
OB-7-S-10-180727	07/27/2018	2.2	< 4.2	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	< 0.0006	< 0.001	< 0.0009	< 0.0009	< 0.0009	0.001	< 0.0009	< 0.0009	< 0.0009	29.2	NA
OB-8-S-5.5-180726	07/26/2018	1.7	< 4	< 13	0.0007	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001	0.21	0.29	0.13	0.23	0.33	0.066	0.13	25.5	NA
OB-8-S-10-180727	07/27/2018	0.8	< 4.3	< 14	< 0.0006	< 0.001	< 0.001	< 0.001	< 0.0006	< 0.001	< 0.0009	< 0.0009	< 0.0009	0.001	< 0.0009	< 0.0009	< 0.0009	29.9	NA
OB-18-S-8.0-210209	02/09/2021	0.47 J	< 5	< 13	0.0011 J	0.002 J	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-19-S-6.0-210211	02/11/2021	9.7	43	430	0.00082 J	0.005	0.00098 J	0.0083 J	< 0.00044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-19-S-9.0-210211	02/11/2021	**35**	14 J	32 J	0.0079 J	< 0.001	< 0.00067	< 0.0024	< 0.00084	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-19-S-12.0-210211	02/11/2021	**42 J**	6 J	15 J	0.00067 J	< 0.00073	0.00056 J	< 0.0017	< 0.00061	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-19-S-19.5-210211	02/11/2021	< 4.4	9 J	18 J	< 0.00071	< 0.00085	< 0.00057	< 0.002	< 0.00071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-20-S-4.0-210208	02/08/2021	< 0.25	< 4.7	100	< 0.00053	< 0.00063	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-20-S-8.0-210208	02/08/2021	< 0.3	< 5.1	< 13	< 0.00053	< 0.00063	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-20-S-9.5-210209	02/09/2021	7.5 J	7.5 J	46 J	0.0017 J	< 0.00091	< 0.00061	< 0.0021	< 0.00076	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-21-S-4.0-210208	02/08/2021	< 2.4	30 J	< 4.6	0.00055 J	0.0012 J	< 0.00041	< 0.0014	< 0.00051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-21-S-8.0-210208	02/08/2021	0.71 J	5.2 U F1	23 J	0.0012 J	0.0025 J	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-22-S-6.0-210211	02/11/2021	< 0.28	27	450	< 0.00053	< 0.00064	< 0.00042	< 0.0015	< 0.00053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-22-S-11.5-210211	02/11/2021	**2300**	68	< 13	**0.11 J**	0.076 J	0.13 J	0.12 J	< 0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-23-S-9.5-210209	02/09/2021	13	6.4 J	23 J	0.02	< 0.00081	0.00071 J	< 0.0019	< 0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-24-S-6.0-210209	02/09/2021	< 0.3	< 5.2	53	0.0007 J	< 0.00066	< 0.00044	< 0.0015	< 0.00055	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-24-S-8.5-210210	02/10/2021	**120**	11 J	< 13	**0.11 J H**	0.05 J H	0.093 J H	0.22 J H	0.036 U H	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-24-S-9.5-210210	02/10/2021	13	6.7 J	35 J	0.0093	< 0.00082	0.001 J	0.0025 J	< 0.00068	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-24-S-14.5-210210	02/10/2021	0.8 J	< 5.2	< 13	0.0035 J	< 0.0007	< 0.00047	< 0.0016	< 0.00059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-25-S-4.5-210209	02/09/2021	< 0.3	< 5.1	< 13	< 0.00056	< 0.00068	< 0.00045	< 0.0016	< 0.00056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-25-S-9.5-210210	02/10/2021	**60**	12 J	46 J	0.029	< 0.001	0.0011 J	< 0.0024	< 0.00087	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OB-25-S-19.5-210210	02/10/2021	< 0.36	< 5.2	< 13	< 0.00057	< 0.00068	< 0.00045	< 0.0016	< 0.00057	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	Methyl-t-butyl ether (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**0.03**	**7**	**7**	**6**	**6**	**9**	**9**	**0.1**	**0.1**
MW-37-S-7-210109	01/09/2021	< 13	280	1100	0.0081 J	0.01 J H	0.0044 J *3	0.0059 J H *3	0.0014 U *3	0.0014 U H *3	0.0048 U *3	0.0049 U H *3	< 0.0017	0.0017 U H
D-22-S-9.0-210209	02/09/2021	< 0.26	< 4.6	< 12	0.00061 J*3	0.0005 U H	0.00062 U *3	0.0006 U H	0.00041 U *3	0.0004 U H	0.0015 U *3	0.0014 U H	0.00052 U *3	0.0005 U H
OB-25-S-8.5-210210	02/10/2021	**1500**	130	< 13	0.03 U *3	0.03 U H	0.036 U *3	0.036 U H	0.024 U *3	0.04 J H	0.085 U *3	0.085 U H	0.03 U *3	0.03 U H
OB-19-S-7.5-210211	02/11/2021	**3500**	72	< 13	< 0.041	< 0.041	< 0.049	< 0.049	0.091 J	0.13 J	< 0.11	< 0.11	< 0.041	< 0.041
OB-22-S-7.5-210211	2/11/2021	710	84	< 12	< 0.029	< 0.029	< 0.035	< 0.035	< 0.023	< 0.023	< 0.082	< 0.082	< 0.029	< 0.029

Sample ID	Date	C_7-C_{12} Petroleum Hydrocarbons (mg/kg)	C_{12}-C_{24} Petroleum Hydrocarbons-DRO (mg/kg)	C_{24}-C_{40} Petroleum Hydrocarbons-Residual Fuels (mg/kg)	Benzene (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (total) (mg/kg)	Methyl-t-butyl ether (mg/kg)	m,p-Xylenes (ug/kg)	o-Xylene (mg/kg)	Naphthalene (mg/kg)	1,2 - Dibromoethane (mg/kg)	1,2-Dichloroethane (mg/kg)	2-Methylnaphthalene (mg/kg)	Hexane (mg/kg)	Lead (mg/kg)
MTCA Method A CULs (mg/kg)		**30/100**	**2000**	**2000**	**0.03**	**0.03**	**7**	**7**	**6**	**6**	**9**	**0.1**	**NCE**	**NCE**	**5**	**NCE**	**NCE**	**NCE**	**NCE**	**250**
SB-4-6-S-100706	07/06/2010	**360**	1400	180	< 0.033	< 0.0749	< 0.066	< 0.0749	< 0.066	< 0.0749	< 0.066	< 0.0749	< 150	< 0.0749	0.14	< 0.066	< 0.066	0.19	< 0.066	2.62
SB-10-6-S-100707	07/07/2010	**2200**	**2100**	190	**0.71**	NA	< 0.1	NA	0.88	NA	0.18	NA	NA	NA	0.42	< 0.1	< 0.1	110	11	17.7
SB-16-4-S-100709	07/09/2010	**260**	**6000**	**4700**	< 0.037	NA	< 0.074	NA	< 0.074	NA	0.099	NA	NA	NA	0.26	< 0.074	< 0.074	15	< 0.074	2.04
SB-17-6-S-100709	07/09/2010	**1200**	1500	1600	**0.049**	< 0.07	0.096	< 0.07	0.14	< 0.07	0.44	< 0.07	< 140	0.161	0.21	< 0.06	< 0.06	2.3	< 0.06	33.1

Sample ID	Date	Indeno(1,2,3-cd)Pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Benzo(a)pyrene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)
MTCA Method A CULs (mg/kg)		**TEQ = 0.1***						
SB-4-6-S-100706	07/06/2010	< 0.00083	0.0040	0.0020	0.0097	0.0036	< 0.00083	0.0053
SB-10-6-S-100707	07/07/2010	< 0.0084	0.023	0.011	0.087	0.03	< 0.0084	0.053
SB-16-4-S-100709	07/09/2010	0.0087	0.088	0.089	0.26	0.092	< 0.0081	0.11
SB-17-6-S-100709	07/09/2010	0.0093	0.083	0.038	0.19	0.054	< 0.008	0.089

EXPLANATIONS:

*Toxic Equivalent Concentration (TMEQ) calculated based on Toxicity Equivalency Factor values for each analyte and by procedures outlined in *Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEF),* in accordance with Cleanup Levels and Risk Calculation (CLARC) for MTCA Method A Unrestricted Land Use Soil CUL (Ecology 2015, 2023)

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CUL = Cleanup Level

ID = identification

(mg/kg) = Milligrams per Kilograms

NA = Not Analyzed

NCE = No Cleanup Level Established

ppm = parts per million

TPH = Total Petroleum Hydrocarbons

Unable to locate historical lab reports to define laboratory qualifiers

Previous Groundwater Data - 1992-2022

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-10																
09/23/92		99.71	6.35	--	93.36	--	--	--	--	--	--	--	--	--	--	--
01/11/93		99.71	4.15	--	95.56	--	--	--	--	--	--	--	--	--	--	--
06/04/93		99.71	4.18	--	95.53	ND	--	--	--	--	ND	ND	ND	ND	--	--
12/15/93		99.71	4.55	--	95.16	ND	**1,100**	--	--	--	ND	ND	ND	ND	--	0.058
06/03/94		99.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/01/94		99.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02/09/95		99.71	2.89	--	96.82	69	**6,400**	--	**590**	--	ND	ND	ND	ND	--	ND
05/02/95		99.71	3.93	--	95.78	ND	**2,700**	--	**940**	--	ND	ND	ND	ND	--	ND
08/02/95		99.71	5.27	--	94.44	190	**32,000**	--	**4,700**	--	ND	ND	ND	ND	--	ND
12/05/95		99.71	2.84	--	96.87	72	**14,000**	--	**2,800**	--	ND	ND	ND	ND	--	ND
03/18/96		99.71	3.65	--	96.06	ND	**1,900**	--	ND	--	ND	ND	ND	ND	--	ND
06/26/96		99.71	4.82	--	94.89	--	**1,540**	--	ND	--	--	--	--	--	--	--
09/09/96		99.71	5.55	--	94.16	--	**2,260**	--	**840**	--	--	--	--	--	--	--
12/30/96		99.71	1.90	--	97.81	--	**885**	--	ND	--	--	--	--	--	--	--
03/07/97		99.71	2.55	--	97.16	--	**3,360**	--	ND	--	--	--	--	--	--	ND
06/09/97		99.71	2.85	--	96.86	--	ND	--	ND	--	--	--	--	--	--	ND
09/04/97		99.71	3.57	--	96.14	--	281	--	ND	--	--	--	--	--	--	ND
12/17/97		99.71	3.22	--	96.49	--	**933**	--	ND	--	--	--	--	--	--	--
06/01/98		99.71	4.71	--	95.00	--	**1,250**	--	ND	--	--	--	--	--	--	--
11/01/98		99.71	6.83	0.00	92.88	--	**1,120**	--	**790**	--	--	--	--	--	--	--
05/30/99		99.71	4.19	0.00	95.52	--	**1,370**	--	ND	--	--	--	--	--	--	--
06/11-12/00		99.71	INACCESSIBLE			--	--	--	--	--	--	--	--	--	--	--
09/25/00		99.71	6.89	0.00	92.82	--	**6,080**	--	ND	--	--	--	--	--	--	--
04/04/02	NP	99.71	4.41	0.00	95.30	--	**4,100**	--	**1,500**	--	--	--	--	--	--	--
04/28/03	NP	99.71	4.06	0.00	95.65	--	**4,400**	--	**2,300**	--	--	--	--	--	--	--
04/15/04	NP	99.71	4.95	0.00	94.76	--	**40,000**	--	**23,000**	--	--	--	--	--	--	--
04/29/05	NP	99.71	4.47	0.00	95.24	--	**3,500**	--	**2,200**	--	--	--	--	--	--	--
04/27/06	NP	99.71	4.81	0.00	94.90	--	**5,800**	--	**1500**	--	--	--	--	--	--	--
12/09/08	LFP	99.45	4.85	0.00	94.60	ND	**710**	--	250	--	ND	ND	ND	ND	ND	--
08/31/10		99.45	6.27	0.00	93.18	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	ND	--
10/07/11		99.45	6.30	0.00	93.15	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
01/10/12		99.45	4.35	0.00	95.10	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
04/11/12		99.45	3.90	0.00	95.55	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		99.45	4.84	0.00	94.61	55	200	--	**970**	--	<0.5	<0.5	<0.5	<1.5	--	--
10/08/12		99.45	7.66	0.00	91.79	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
01/08/13		99.45	3.82	0.00	95.63	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		99.45	4.21	0.00	95.24	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		99.45	5.43	0.00	94.02	<50	--	**2,700**	--	**1,100**	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		99.45	5.08	0.00	94.37	74	--	**2,400**	--	450	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		99.45	5.08	0.00	94.37	110	--	**4,400**	--	**1,100**	<0.5	<0.5	<0.5	<1.5	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-10 cont.																
04/07-08/14		99.45	3.80	0.00	95.65	<50	<29	**2,800**	<67	**1,200**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		99.45	6.32	0.00	93.13	**12,000**	300	410	110	130	**16**	280	150	**1,600**	--	--
10/07-08/14		99.45	6.02	0.00	93.43	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		99.45	3.56	0.00	95.89	<50	<28	**1,000**	<66	**790**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		99.45	4.33	0.00	95.12	60	<29	**2,400**	<67	**700**	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		99.45	UNABLE TO ACCESS			--	--	--	--	--	--	--	--	--	--	--
10/19-20/15		99.45	UNABLE TO ACCESS			--	--	--	--	--	--	--	--	--	--	--
01/12-13/16		99.45	UNABLE TO ACCESS			--	--	--	--	--	--	--	--	--	--	--
04/23/16		99.45	UNABLE TO ACCESS			--	--	--	--	--	--	--	--	--	--	--
06/10-12/20		99.45	5.03	0.00	94.42	30	--	**2,700**	--	**1,000**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		99.45	7.07	0.00	92.38											
12/09/20		99.45	4.65	0.00	94.80	<19	<45	300	<100	340	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		99.45		0.00	99.45	78	--	**2,500**	--	**1,300**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		99.45	3.13	0.00	96.32	19	--	93	--	120	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		99.45	3.85	0.00	95.60	39	--	**1,600**	--	**770**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		99.45	4.09	0.00	95.36	39	--	**1,100**	--	460	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		99.45	6.71	0.00	92.74	<43	INSUFFICIENT WATER FOR SAMPLE				<0.3	<0.3	<0.4	<1.4	--	--
MW-11																
06/04/93		101.33	4.68	--	96.65	ND	**11,000**	--	--	--	ND	ND	ND	ND	--	--
12/15/93		101.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06/04/94		101.33	5.34	--	95.99	230	--	--	--	--	ND	ND	ND	0.7	--	3.6
11/01/94		101.33	5.85	--	95.48	--	--	--	--	--	--	--	--	--	--	--
02/09/95		101.33	3.97	--	97.36	58	**2,800**	--	420	--	ND	ND	ND	0.6	--	ND
05/02/95		101.33	4.59	--	96.74	ND	**8,600**	--	**1,600**	--	ND	ND	ND	ND	--	ND
08/02/95		101.33	5.44	--	95.89	--	--	--	--	--	--	--	--	--	--	--
12/05/95		101.33	3.80	--	97.53	ND	290	--	**930**	--	ND	ND	ND	ND	--	ND
03/18/96		101.33	4.50	--	96.83	61	**2,000**	--	ND	--	1.0	ND	ND	1.9	--	ND
06/26/96		101.33	4.90	--	96.43	--	**4,320**	--	**1,360**	--	--	--	--	--	--	--
09/09/96		101.33	5.65	--	95.68	--	--	--	--	--	--	--	--	--	--	--
12/30/96		101.33	2.60	--	98.73	--	370	--	ND	--	--	--	--	--	--	--
03/07/97		101.33	3.92	--	97.41	--	**1,100**	--	ND	--	--	--	--	--	--	ND
06/09/97		101.33	3.80	--	97.53	--	**3,090**	--	**1,090**	--	--	--	--	--	--	ND
09/04/97		101.33	5.84	--	95.49	--	--	--	--	--	--	--	--	--	--	--
12/17/97		101.33	4.51	--	96.82	--	**1,830**	--	ND	--	--	--	--	--	--	--
06/01/98		101.33	5.44	--	95.89	--	**1,360**	--	ND	--	--	--	--	--	--	--
11/01/98		101.33	5.87	0.00	95.46	--	**1,060**	--	**1,870**	--	--	--	--	--	--	--
05/30/99		101.33	5.31	0.00	96.02	--	**21,700**	--	ND	--	--	--	--	--	--	--
06/11-12/00		101.33	INACCESSIBLE			--	--	--	--	--	--	--	--	--	--	--
09/25/00		101.33	5.85	0.00	95.48	--	**5,350**	--	**4,410**	--	--	--	--	--	--	--
01/26/01		101.33	5.38	0.00	95.95	--	ND	--	ND	--	--	--	--	--	--	--
01/09/02		101.33	4.24	0.00	97.09	--	<250	--	<500	--	--	--	--	--	--	--
04/04/02	NP	101.33	4.94	0.00	96.39	--	**9,900**	--	**2,300**	--	--	--	--	--	--	--
04/28/03	NP	101.33	4.89	0.00	96.44	--	**12,000**	--	**1,900**	--	--	--	--	--	--	--
04/15/04	NP	101.33	5.39	0.00	95.94	--	**2,700**	--	**710**	--	--	--	--	--	--	--
04/29/05	NP	101.33	5.18	0.00	96.15	--	**2,600**	--	**1,900**	--	--	--	--	--	--	--
04/27/06	NP	101.33	5.33	0.00	96.00	--	**2,000**	--	<510	--	--	--	--	--	--	--
12/10/08	NP	101.00	5.60	0.00	95.40	ND	--	--	--	--	ND	ND	ND	ND	ND	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-11 cont.																
08/31/10		101.00	5.75	0.00	95.25	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	ND	--
10/07/11		101.00	7.20	0.00	93.80	Dry	--	--	--	--	--	--	--	--	--	--
01/09/12		101.00	5.18	0.00	95.82	<50	<34	--	<79	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/12		101.00	6.80	0.00	94.20	Dry	--	--	--	--	--	--	--	--	--	--
07/09/12		101.00	5.66	0.00	95.34	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
10/08/12		101.00	6.88	0.00	94.12	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
01/07/13		101.00	3.38	0.00	97.62	510	53	--	<67	--	1.4	<2.0	0.9	4.5	--	--
04/08/13		101.00	6.76	0.00	94.24	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
9/25-26/13		101.00	6.83	0.00	94.17	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
11/05-06/13		101.00	6.51	0.00	94.49	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
01/07-09/14		101.00	6.78	0.00	94.22	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
04/07-08/14		101.00	4.57	0.00	96.43	<50	<28	400	<66	360	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		101.00	6.48	0.00	94.52	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
10/07-08/14		101.00	5.97	0.00	95.03	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		101.00	4.38	0.00	96.62	<50	<28	**3,400**	<66	**700**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		101.00	5.06	0.00	95.94	<50	<28	**3,000**	<66	**580**	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		101.00	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
10/19-20/15		101.00	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
01/12-13/16		101.00	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
04/23/16		101.00	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
06/10-12/20		101.00	5.71	0.00	95.29	37	--	**3,100**	--	**1,300**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		101.00	6.75	0.00	94.25											
12/08/20		101.00	6.15	0.00	94.85	INSUFFICIENT WATER FOR SAMPLE										
07/07/21		101.00		0.00	101.00	<19	--	240	--	**590**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		101.00	4.30	0.00	96.70	23	--	340	--	190	<0.3	<0.2	<0.4	<0.4	<0.2	--
MW-12																
09/23/92		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01/11/93		101.13	4.88	--	96.25	--	--	--	--	--	--	--	--	--	--	--
06/04/93		101.13	4.40	--	96.73	360	**9,200**	--	--	--	**120**	1.2	0.6	2.1	--	0.12 - 0.54
12/15/93		101.13	5.21	--	95.92	670	**6,400**	--	--	--	**400**	2.9	0.9	5.8	--	0.067 - 14
06/04/94		101.13	5.21	--	95.92	**840**	**8,100**	--	**1,500**	--	**240**	3.3	ND	2.8	--	13
11/01/94		101.13	5.31	--	95.82	**810**	**5,700**	--	**1,400**	--	**160**	1.7	0.7	4.5	--	0.12 - 28
02/09/95		101.13	3.68	--	97.45	87	**3,700**	--	**680**	--	**7.1**	ND	ND	ND	--	ND
05/02/95		101.13	4.17	--	96.96	490	**16,000**	--	**1,800**	--	**16**	0.58	ND	1.9	--	ND
08/02/95		101.13	5.28	--	95.85	270	**12,000**	--	**2,300**	--	**10**	0.83	ND	ND	--	ND
12/05/95		101.13	2.91	--	98.22	ND	420	--	**1,100**	--	ND	ND	ND	ND	--	ND
03/18/96		101.13	4.00	--	97.13	430	**5,400**	--	ND	--	1.5	1.2	0.95	4.7	--	ND
06/26/96		101.13	4.62	--	96.51	--	**12,600**	--	**2,920**	--	--	--	--	--	--	--
09/09/96		101.13	5.95	--	95.18	--	**9,680**	--	**1,470**	--	--	--	--	--	--	--
12/30/96		101.13	1.90	--	99.23	--	429	--	ND	--	--	--	--	--	--	--
03/07/97		101.13	3.03	--	98.10	105	**18,900**	--	**1,330**	--	1.85	ND	ND	ND	--	ND
06/09/97		101.13	4.23	--	96.90	--	**9,070**	--	**1,250**	--	--	--	--	--	--	ND
09/04/97		101.13	5.78	--	95.35	--	**14,000**	--	**1,500**	--	--	--	--	--	--	ND - 2.06
12/17/97		101.13	3.84	--	97.29	--	**4,500**	--	ND	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-12 cont.																
06/01/98		101.13	5.00	--	96.13	--	**7,050**	--	ND	--	--	--	--	--	--	--
11/01/98		101.13	5.44	0.00	95.69	--	**6,300**	--	ND	--	--	--	--	--	--	--
05/30/99		101.13	4.97	0.00	96.16	--	**22,200**	--	ND	--	--	--	--	--	--	--
06/11-12/00		101.13	INACCESSIBLE			--	--	--	--	--	--	--	--	--	--	--
09/25/00		101.13	6.57	0.00	94.56	--	**12,000**	--	ND	--	--	--	--	--	--	--
01/26/01		101.13	5.05	0.00	96.08	--	ND	--	ND	--	--	--	--	--	--	--
01/09/02		101.13	3.46	0.00	97.67	--	310	--	<500	--	--	--	--	--	--	--
04/04/02	NP	101.13	4.48	0.00	96.65	--	**12,000**	--	**1,700**	--	--	--	--	--	--	--
04/28/03	NP	101.13	4.41	0.00	96.72	--	**22,000**	--	**3,200**	--	--	--	--	--	--	--
04/15/04	NP	101.13	5.00	0.00	96.13	--	**19,000**	--	**3,100**	--	--	--	--	--	--	--
04/29/05	NP	101.13	4.39	0.00	96.74	--	**17,000**	--	**3,200**	--	--	--	--	--	--	--
04/27/06	NP	101.13	4.88	0.00	96.25	--	**4,900**	--	**1,300**	--	--	--	--	--	--	--
12/09/08	LFP	101.04	5.19	0.00	95.85	150	**2,200**	--	250	--	ND	ND	ND	ND	ND	--
08/31/10		101.04	5.86	0.00	95.18	530	**2,600**	--	<360	--	<0.5	<0.5	<0.5	<0.5	ND	--
10/07/11		101.04	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
01/09/12		101.04	4.55	0.00	96.49	300	49	--	71	--	<2.0	<2.0	<0.5	1.5	--	--
04/11/12		101.04	4.05	0.00	96.99	130	<29	--	<69	--	<0.5	<0.5	<0.5	<5.0	--	--
07/09/12		101.04	5.36	0.00	95.68	490	**670**	--	**1,000**	--	1.4	<2.0	1.11	<6.0	--	--
10/09/12		101.04	6.54	0.00	94.50	670	32	--	<69	--	1.3	1.1	1.2	3.5	--	--
01/07/13		101.04	3.88	0.00	97.16	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		101.04	4.09	0.00	96.95	260	<28	--	<66	--	<0.5	<0.5	<0.5	<5.0	--	--
09/25-26/13		101.04	5.58	0.00	95.46	420	--	**6,800**	--	**870**	0.6	<2.0	0.6	1.7	--	--
11/05-06/13		101.04	5.27	0.00	95.77	220	--	**4,300**	--	380	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		101.04	5.62	0.00	95.42	260	--	**8,900**	--	**1,900**	<0.5	<0.5	<0.5	1.9	--	--
04/07-08/14		101.04	3.77	0.00	97.27	<50	<28	**3,000**	<66	**1,100**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		101.04	4.88	0.00	96.16	**37,000**	**810**	**1,200**	140	200	**55**	910	420	**3,800**	--	--
10/07-08/14		101.04	6.02	0.00	95.02	<50	<29	110	<67	<67	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		101.04	3.63	0.00	97.41	140	<28	**6,900**	<66	**1,600**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		101.04	4.57	0.00	96.47	220	32	**11,000**	<66	**1,100**	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		101.04	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
10/19-20/15		101.04	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
01/12-13/16		101.04	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
04/23/16		101.04	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
06/10-12/20		101.04	5.37	0.00	95.67	280	--	**14,000**	--	**3,700**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		101.04	6.44	0.00	94.60											
12/08/20		101.04	5.10	0.00	95.94	56	<47	**2,100**	<100	**1,000**	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		101.04		0.00	101.04	220	--	**13,000**	--	**3,900**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		101.04	3.51	0.00	97.53	23	--	**4,000**	--	**1,700**	<0.3	<0.2	<0.4	<0.4	<0.2	--
MW-13																
09/23/92		102.54	5.23	--	97.31	**870**	**8,200**	--	--	--	**87**	4.0	4.0	6.0	--	--
01/11/93		102.54	6.26	--	96.28	--	--	--	--	--	--	--	--	--	--	--
06/04/93		102.54	5.95	--	96.59	ND	330	--	--	--	ND	ND	ND	ND	--	0.087
12/15/93		102.54	7.04	--	95.50	**1,000**	**27,000**	--	--	--	**35**	2.4	5.9	8.7	--	0.58 - 2.7
06/03/94		102.54	6.74	--	95.80	680	**27,000**	--	ND	--	**8.5**	1.1	2.0	1.6	--	1.5

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-13 cont.																
11/01/94		102.54	7.69	--	94.85	**1,500**	**20,000**	--	ND	--	**38**	3.2	8.7	9.2	--	0.15 - 7.8
02/09/95		102.54	4.83	--	97.71	130	**4,400**	--	**1,400**	--	2.0	ND	0.7	ND	--	ND
05/02/95		102.54	5.82	--	96.72	410	**14,000**	--	**2,200**	--	3.0	ND	2.1	ND	--	ND
08/02/95		102.54	7.25	--	95.29	750	**31,000**	--	**2,400**	--	**18**	2.5	13	3.0	--	ND
12/05/95		102.54	4.14	--	98.40	ND	**6,700**	--	**4,800**	--	ND	ND	ND	ND	--	ND
03/18/96		102.54	5.16	--	97.38	140	**10,000**	--	**2,500**	--	ND	ND	ND	2.6	--	ND
06/26/96		102.54	6.48	--	96.06	--	**8,110**	--	**2,640**	--	--	--	--	--	--	--
09/09/96		102.54	7.70	--	94.84	--	**35,800**	--	**2,810**	--	--	--	--	--	--	--
12/30/96		102.54	3.12	--	99.42	--	--	--	--	--	--	--	--	--	--	--
03/07/97		102.54	4.16	--	98.38	--	**960**	--	ND	--	--	--	--	--	--	ND
06/09/97		102.54	5.70	--	96.84	--	**1,620**	--	**1,050**	--	--	--	--	--	--	ND
09/04/97		102.54	7.59	--	94.95	--	**15,800**	--	**1,550**	--	--	--	--	--	--	ND
12/17/97		102.54	5.43	--	97.11	--	**11,100**	--	**1,630**	--	--	--	--	--	--	--
06/01/98		102.54	6.48	--	96.06	--	**1,490**	--	ND	--	--	--	--	--	--	--
11/01/98		102.54	7.77	0.00	94.77	--	**9,580**	--	**933**	--	--	--	--	--	--	--
05/30/99		102.54	6.34	0.00	96.20	--	**12,800**	--	ND	--	--	--	--	--	--	--
06/11-12/00		102.54	6.88	0.00	95.66	--	--	--	--	--	--	--	--	--	--	--
04/04/02	NP	102.54	5.52	0.00	97.02	--	**980**	--	<750	--	--	--	--	--	--	--
04/28/03	NP	102.54	5.45	0.00	97.09	--	**3,200**	--	440	--	--	--	--	--	--	--
04/15/04	NP	102.54	6.15	0.00	96.39	--	**2,100**	--	460	--	--	--	--	--	--	--
04/29/05	NP	102.54	5.55	0.00	96.99	--	**4,400**	--	**1,500**	--	--	--	--	--	--	--
04/27/06	NP	102.54	5.99	0.00	96.55	--	**1,800**	--	280	--	--	--	--	--	--	--
12/09/08	LFP	102.57	6.23	0.00	96.34	200	**4,000**	--	**520**	--	ND	ND	ND	ND	ND	--
08/31/10		102.57	7.44	0.00	95.13	<50	**2,500**	--	<360	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		102.57	8.00	0.00	94.57	190	42	--	<69	--	<0.5	<0.5	<0.5	1.8	--	--
01/10/12		102.57	5.95	0.00	96.62	<50	66	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
04/10/12		102.57	5.45	0.00	97.12	<50	89	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		102.57	6.87	0.00	95.70	280	**2,100**	--	150	--	0.6	<0.5	<0.5	2.0	--	--
10/10/12		102.57	8.10	0.00	94.47	360	280	--	<66	--	1.1	0.7	<0.5	1.7	--	--
01/09/13		102.57	4.57	0.00	98.00	<50	510	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		102.57	5.54	0.00	97.03	<50	83	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		102.57	7.57	0.00	95.00	370	--	**4,000**	--	460	0.9	<2.0	0.7	1.5	--	--
11/05-06/13		102.57	6.84	0.00	95.73	120	--	**3,100**	--	**620**	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		102.57	6.94	0.00	95.63	400	--	**4,000**	--	**630**	0.5	<0.5	<0.5	1.8	--	--
04/07-08/14		102.57	5.39	0.00	97.18	<50	83	**600**	<68	430	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		102.57	7.51	0.00	95.06	140	400	**2,500**	<67	420	<0.5	<0.5	<0.5	<1.5	--	--
10/07-08/14		102.57	8.03	0.00	94.54	<50	35	54	<69	<69	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		102.57	5.00	0.00	97.57	300	**1,300**	**2,700**	<66	**820**	<0.5	<0.5	0.7	<1.5	<2.5	--
04/06-08/15		102.57	5.99	0.00	96.58	<50	55	420	<66	80	<0.5	<0.5	0.7	<1.5	--	--
07/23/15		102.57	7.80	0.00	94.77	400	**1,100**	**3,100**	<100	**650**	<0.5	<0.5	0.6	1.7	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-13 cont.																
10/19-20/15		102.57	7.73	0.00	94.84	230	150	**5,800**	<100	**720**	<0.2	<0.2	0.4	0.8	--	--
01/12-13/16		102.57	5.07	0.00	97.50	100	**740**	**2,200**	<100	**650**	<0.2	<0.2	<0.2	<0.2	--	--
04/23/16		102.57	6.11	0.00	96.46	<50	62	**530**	<100	140	<0.2	<0.2	<0.2	<0.2	--	--
06/10-12/20		102.57	6.98	0.00	95.59	460	--	**3,600**	--	**690**	<1.0	0.30	<1.0	<3.0	--	--
09/19/20		102.57	8.05	0.00	94.52											
12/10/20		102.57	6.50	0.00	96.07	390	**2,300**	**5,200**	<100	340	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		102.57		0.00	102.57	510	--	**6,500**	--	**570**	<0.3	<0.4	<0.2	<0.4	--	--
11/29/21		102.57	4.67	0.00	97.90	110	--	**4,800**	--	360	<0.3	<0.4	<0.2	<0.4	<0.2	--
04/05/22		102.57	5.70	0.00	96.87	28	--	460	--	120	<0.3	<0.4	<0.2	<0.4	<0.2	--
06/22/22		102.57	6.13	0.00	96.44	170	--	220	--	<100	<0.3	<0.4	<0.2	<0.4	--	--
10/06/22		102.57	7.96	0.00	94.61	400	--	**15,000**	--	**570**	<0.3	<0.3	<0.4	<1.4	--	--
MW-14																
09/23/92		102.25	5.26	--	96.99	**1,100**	**9,800**	--	--	--	**200**	11	3.0	7.0	--	--
01/11/93		102.25	5.25	--	97.00	--	--	--	--	--	--	--	--	--	--	--
06/04/93		102.25	4.90	--	97.35	ND	**9,700**	--	--	--	2.2	ND	ND	ND	--	--
12/15/93		102.25	6.18	--	96.07	470	**9,500**	--	--	--	**72**	0.6	1.9	4.2	--	0.48 - 1.0
06/03/94		102.25	5.71	--	96.54	**830**	**4,300**	--	**980**	--	**29**	1.0	1.3	0.7	--	ND
11/01/94		102.25	6.76	--	95.49	ND	**5,400**	--	**1,700**	--	3.8	ND	ND	0.5	--	0.11
02/09/95		102.25	3.85	--	98.40	ND	**1,700**	--	**1,100**	--	ND	ND	ND	ND	--	ND
05/02/95		102.25	4.74	--	97.51	ND	**4,200**	--	**2,200**	--	0.65	0.58	ND	ND	--	ND
08/02/95		102.25	6.64	--	95.61	140	**21,000**	--	**4,800**	--	**17**	1.8	1.6	ND	--	ND
12/05/95		102.25	3.16	--	99.09	ND	**9,300**	--	**3,900**	--	3.0	ND	ND	ND	--	ND
03/18/96		102.25	4.20	--	98.05	230	**11,000**	--	**2,900**	--	**8.9**	ND	ND	6.9	--	ND
06/26/96		102.25	5.75	--	96.50	--	**39,300**	--	**4,600**	--	--	--	--	--	--	--
09/09/96		102.25	7.00	--	95.25	--	**58,200**	--	**4,450**	--	--	--	--	--	--	--
12/30/96		102.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03/07/97		102.25	2.96	--	99.29	98	**9,230**	--	**1,310**	--	0.545	ND	ND	ND	--	ND
06/09/97		102.25	4.75	--	97.50	--	**10,000**	--	**2,240**	--	--	--	--	--	--	ND
09/04/97		102.25	6.74	--	95.51	--	**42,700**	--	ND	--	--	--	--	--	--	ND - 1.90
12/17/97		102.25	3.90	--	98.35	--	**4,860**	--	**1,710**	--	--	--	--	--	--	--
06/01/98		102.25	5.58	--	96.67	--	**2,270**	--	ND	--	--	--	--	--	--	--
11/01/98		102.25	7.30	0.00	94.95	--	**8,620**	--	**2,030**	--	--	--	--	--	--	--
05/30/99		102.25	5.37	0.00	96.88	--	**15,700**	--	**1,590**	--	--	--	--	--	--	--
06/11-12/00		102.25	5.81	0.00	96.44	--	--	--	--	--	--	--	--	--	--	--
04/04/02	NP	102.25	4.69	0.00	97.56	--	**1,100**	--	<750	--	--	--	--	--	--	--
04/28/03	NP	102.25	4.52	0.00	97.73	--	**820**	--	470	--	--	--	--	--	--	--
04/15/04	NP	102.25	5.29	0.00	96.96	--	**4,400**	--	**2,800**	--	--	--	--	--	--	--
04/29/05	NP	102.25	4.50	0.00	97.75	--	**740**	--	**580**	--	--	--	--	--	--	--
04/27/06	NP	102.25	4.99	0.00	97.26	--	400	--	140	--	--	--	--	--	--	--
12/10/08	LFP	102.30	5.26	0.00	97.04	ND	**520**	--	210	--	ND	ND	ND	ND	ND	--
08/31/10		102.30	7.69	0.00	94.61	<50	**1,200**	--	**940**	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		102.30	8.30	0.00	94.00	<50	**2,000**	--	**1,100**	--	<0.5	<0.5	<0.5	<1.5	--	--
01/10/12		102.30	5.65	0.00	96.65	<50	**680**	--	320	--	<0.5	<0.5	<0.5	<1.5	--	--
04/10/12		102.30	5.70	0.00	96.60	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		102.30	6.93	0.00	95.37	<50	**2,900**	--	**1,400**	--	<0.5	<0.5	<0.5	<1.5	--	--
10/09/12		102.30	8.45	0.00	93.85	<50	290	--	250	--	<0.5	<0.5	<0.5	<1.5	--	--
01/08/13		102.30	4.99	0.00	97.31	<50	30	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-14 cont.																
04/09/13		102.30	5.50	0.00	96.80	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		102.30	7.08	0.00	95.22	<51	--	**720**	--	**550**	<0.5	<0.5	<0.5	<1.6	--	--
11/05-06/13		102.30	6.77	0.00	95.53	<50	--	480	--	310	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		102.30	6.76	0.00	95.54	<50	--	**530**	--	440	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		102.30	5.56	0.00	96.74	<50	62	440	<67	440	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		102.30	7.37	0.00	94.93	<50	<28	340	<66	220	<0.5	<0.5	<0.5	<1.5	--	--
10/07-08/14		102.30	8.39	0.00	93.91	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		102.30	5.30	0.00	97.00	<50	**510**	**1,300**	400	**1,400**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		102.30	6.04	0.00	96.26	<50	<28	200	<66	220	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		102.30	8.07	0.00	94.23	<50	110	**920**	<100	**500**	<0.5	<0.5	<0.5	<1.5	--	--
10/19-20/15		102.30	9.77	0.00	92.53	<50	<46	**2,600**	<100	**960**	<0.2	<0.2	<0.2	<0.2	--	--
01/12-13/16		102.30	5.41	0.00	96.89	<50	140	**860**	<100	**740**	<0.2	<0.2	<0.2	<0.2	--	--
04/23/16		102.30	6.26	0.00	96.04	<50	<46	150	<100	<100	<0.2	<0.2	<0.2	<0.2	--	--
06/10-12/20		102.30	6.86	0.00	95.44	<260	--	**3,600**	--	**7,600**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		102.30	8.39	0.00	93.91											
12/08/20		102.30	5.80	0.00	96.50	<19	**850**	**1,600**	**580**	**1,200**	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		102.30		0.00	102.30	<19	--	410	--	230	<0.2	<0.4	<0.2	<0.4	--	--
11/29/21		102.30	5.22	0.00	97.08	<19	--	**1,200**	--	**670**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		102.30	6.19	0.00	96.11	<22	--	79	--	<250	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		102.30	6.19	0.00	96.11	<43	--	490	--	150	<0.3	<0.3	<0.4	<1.4	--	--
MW-18																
08/31/10		104.12	9.27	0.00	94.85	320	**2,700**	--	<370	--	**5**	<0.5	<0.5	<0.5	--	--
10/07/11		104.12	8.10	0.00	96.02	100	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
01/10/12		104.12	8.00	0.00	96.12	540	120	--	<67	--	<2.0	0.8	0.9	2.9	--	--
04/11/12		104.12	7.55	0.00	96.57	340	<30	--	<69	--	<2.0	<0.5	0.5	3.3	--	--
07/10/12		104.12	8.83	0.00	95.29	760	**520**	--	160	--	1.6	0.9	1.2	<6.0	--	--
10/10/12		104.12	9.85	0.00	94.27	410	51	--	<66	--	1.2	0.6	0.7	2.5	--	--
01/09/13		104.12	7.20	0.00	96.92	610	160	--	<68	--	1.6	<2.0	1.0	5.4	--	--
04/09/13		104.12	7.77	0.00	96.35	310	68	--	<66	--	<0.5	0.6	0.8	2.6	--	--
09/25-26/13		104.12	9.24	0.00	94.88	600	--	**4,300**	--	**760**	1.6	<2.0	1.2	3.7	--	--
11/05-06/13		104.12	5.88	0.00	98.24	**1,000**	--	**3,700**	--	**650**	1.9	1.3	1.6	<8.0	--	--
01/07-09/14		104.12	8.60	0.00	95.52	**940**	--	**6,300**	--	**1,100**	2.2	1.2	1.4	6.8	--	--
04/07-08/14		104.12	7.50	0.00	96.62	620	110	**2,400**	<67	**510**	<2.0	0.7	0.9	<5.0	--	--
07/07-09/14		104.12	8.93	0.00	95.19	**4,500**	72	98	<68	<68	2.2	52	40	460	--	--
10/07-08/14		104.12	8.08	0.00	96.04	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		104.12	7.17	0.00	96.95	620	43	**3,300**	<66	**630**	<2.0	<2.0	1.4	<6.0	<2.5	--
04/06-08/15		104.12	8.08	0.00	96.04	540	150	**3,500**	<66	**810**	<0.9	<0.6	1.0	<5.0	--	--
07/23/15		104.12	9.69	0.00	94.43	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
10/19-20/15		104.12	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--
01/12-13/16		104.12	7.15	0.00	96.97	510	85	**4,800**	<100	**650**	<0.2	0.3	<0.5	1.1	--	--
04/23/16		104.12	9.39	0.00	94.73	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
06/10-12/20		104.12	9.23	0.00	94.89	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
09/19/20		104.12	DRY	--	--											
12/08/20		104.12	9.17	0.00	94.95	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
07/06/21		104.12		0.00	104.12											
11/29/21		104.12	6.73	0.00	97.39	26	--	**510**	--	230	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		104.12	7.79	0.00	96.33	**1,000**	--	**5,500**	--	**530**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		104.12	8.18	0.00	95.94	**950**	--	**790**	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
10/06/22		104.12	DRY	--	--	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
MW-19																
08/31/10		101.41	6.07	0.00	95.34	**2,900**	**8,800**	--	<1,700	--	1	3	11	9	--	--
10/07/11		101.41	6.65	0.00	94.76	**2,300**	440	--	<69	--	**9.8**	4.2	6.5	12	--	--
01/10/12		101.41	4.70	0.00	96.71	**3,100**	470	--	<67	--	**9.1**	3.5	9.1	12	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-19 cont.																
04/11/12		101.41	4.15	0.00	97.26	**1,200**	**540**	--	<68	--	1.3	1.4	3.6	5.9	--	--
07/10/12		101.41	5.53	0.00	95.88	**2,900**	**2,900**	--	350	--	3.1	4.3	9.7	18	--	--
10/10/12		101.41	6.74	0.00	94.67	**1,600**	150	--	<66	--	<6.0	3.3	5.7	8.5	--	--
01/09/13		101.41	3.36	0.00	98.05	110	89	--	<67	--	<0.5	<2.0	<0.5	1.6	--	--
04/09/13		101.41	4.33	0.00	97.08	**1,500**	400	--	<66	--	2.1	2.1	3.9	<7.0	--	--
09/25-26/13		101.41	5.98	0.00	95.43	**2,000**	--	**21,000**	--	**1,700**	2.5	2.5	5.2	<11	--	--
11/05-06/13		101.41	5.47	0.00	95.94	**2,400**	--	**12,000**	--	**1,300**	3.2	2.8	8.1	<14	--	--
01/07-09/14		101.41	5.57	0.00	95.84	**2,400**	--	**11,000**	--	<670	3.8	3.2	6.6	14	--	--
04/07-08/14		101.41	4.08	0.00	97.33	**1,000**	290	**22,000**	<67	**1,900**	0.8	0.6	1.7	<5.0	--	--
07/07-09/14		101.41	5.63	0.00	95.78	**1,900**	39	42	<68	<68	0.5	13	13	170	--	--
10/07-08/14		101.41	7.96	0.00	93.45	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		101.41	3.76	0.00	97.65	**1,500**	**7,400**	**10,000**	<1,700	<3,300	<4.0	1.9	3.6	<9.0	<9.0	--
04/06-08/15		101.41	4.18	0.00	97.23	**990**	**500**	**16,000**	<66	**3,100**	1.5	1.3	2.4	5.6	--	--
07/23/15		101.41	6.38	0.00	95.03	**2,400**	370	**12,000**	<100	<1,000	3.5	3.3	3.5	9.5	--	--
10/19-20/15		101.41	6.32	0.00	95.09	**3,000**	250	**27,000**	<100	**2,000**	3.5	2.7	3.5	7.0	--	--
01/12-13/16		101.41	3.76	0.00	97.65	**870**	**1,900**	**14,000**	270	**2,700**	0.7	0.6	1.0	2.4	--	--
04/23/16		101.41	4.77	0.00	96.64	**1,700**	**5,000**	**51,000**	**650**	<5,200	1.7	0.9	1.6	########	--	--
06/10-12/20		101.41	5.65	0.00	95.76	**1,100**	--	**29,000**	--	13,000	0.2	########	##########	########	--	--
09/19/20		101.41	6.68	0.00	94.73											
12/08/20		101.41	5.60	0.00	95.81	**1,900**	**1,900**	**45,000**	**420**	**1,200**	0.4	########	1.0	########	--	--
07/07/21		101.41		0.00	101.41	500	--	**5,300**	--	**1,800**	<0.3	<0.	<0.4	<0	--	--
11/29/21		101.41	2.49	0.00	98.92	80	--	**18,000**	--	**1,900**	<0.3	<0.	<0.4	<0	<0	--
MW-20																
08/31/10		100.99	5.31	0.00	95.68	**1,700**	**7,600**	--	**2,300**	--	**59**	6	11	6	--	--
10/07/11		100.99	5.95	0.00	95.04	**2,700**	**1,500**	--	430	--	**14**	4.2	5.2	4.2	--	--
01/10/12		100.99	3.70	0.00	97.29	**3,700**	**980**	--	<67	--	**130**	7.2	19	16	--	--
04/11/12		100.99	3.30	0.00	97.69	**2,400**	**990**	--	<67	--	**88**	6.5	15	23	--	--
07/10/12		100.99	4.66	0.15	96.45	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
10/08/12		100.99	6.43	0.41	94.89	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
01/08/13		100.99	3.90	0.02	97.11	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
04/08/13		100.99	3.42	0.02	97.59	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
09/25-26/13		100.99	5.07	0.03	95.94	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
11/05-06/13		100.99	6.81	0.29	94.41	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
01/07-09/14		100.99	UNABLE TO GAUGE DEPTH DUE TO PRODUCT					--	--	--	--	--	--	--	--	
04/07-08/14		100.99	3.55	0.03	97.46	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
07/07-09/14		100.99	5.96	0.08	95.09	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
10/07-08/14		100.99	6.16	0.05	94.87	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
01/06-07/15		100.99	3.61	0.02	97.40	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
04/06-08/15		100.99	UNABLE TO GAUGE DEPTH DUE TO PRODUCT					--	--	--	--	--	--	--	--	
07/23/15		100.99	5.80	0.07	95.25	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
10/19-20/15		100.99	5.61	0.03	95.40	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
01/12-13/16		100.09	3.14	0.04	96.98	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
04/23/16		100.09	7.19	0.28	93.12	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
06/10-12/20		100.09	4.75	0.02	95.36	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
09/19/20		100.09	6.05	0.00	94.04											
12/08/20		100.09	5.60	0.03	94.51	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
07/06/21		100.09				NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--
11/29/21		100.09	2.83	0.05	97.30	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-21																
08/31/10		100.60	4.93	0.00	95.67	230	**1,400**	--	**960**	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		100.60	5.30	0.00	95.30	**820**	**1,200**	--	290	--	<0.5	<0.5	1.2	5.9	--	--
01/10/12		100.60	2.90	0.00	97.70	250	<29	--	<67	--	<0.5	<0.5	<0.5	1.9	--	--
04/10/12		100.60	2.85	0.00	97.75	130	58	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		100.60	4.07	0.00	96.53	330	**610**	--	190	--	0.8	<0.5	0.6	<6.0	--	--
10/10/12		100.60	5.53	0.00	95.07	450	**1,900**	--	**1,200**	--	0.9	0.7	1	4.1	--	--
01/08/13		100.60	2.54	0.00	98.06	260	63	--	<66	--	0.6	0.5	<0.5	4.1	--	--
04/09/13		100.60	2.78	0.00	97.82	230	43	--	<66	--	<0.5	<0.5	<0.5	2.8	--	--
09/25-26/13		100.60	4.24	0.00	96.36	520	--	**2,400**	--	**870**	<2.5	0.6	0.70	4.6	--	--
11/05-06/13		100.60	3.89	0.00	96.71	370	--	**2,500**	--	**1,400**	<0.5	<0.5	<0.5	<4.0	--	--
01/07-09/14		100.60	3.77	0.00	96.83	370	--	**2,100**	--	**600**	<2.0	<0.5	0.6	4.0	--	--
04/07-08/14		100.60	2.78	0.00	97.82	93	32	**1,300**	<67	**1,400**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		100.60	4.72	0.00	95.88	350	**540**	**2,000**	<68	**890**	<2.0	<0.5	0.6	<5.0	--	--
10/07-08/14		100.60	5.66	0.00	94.94	<50	110	140	<67	<67	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		100.60	3.48	0.00	97.12	180	48	**1,300**	<66	**820**	<0.5	<0.5	<0.5	<3.0	<2.5	--
04/06-08/15		100.60	3.19	0.00	97.41	130	49	**1,300**	<67	**730**	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		100.60	5.24	0.00	95.36	700	150	**1,600**	<100	**1,300**	<0.5	<0.8	1.1	3.4	--	--
10/19-20/15		100.60	4.83	0.00	95.77	630	150	**2,400**	<100	**990**	<0.2	<0.2	0.9	2.3	--	--
01/12-13/16		100.60	2.21	0.00	98.39	290	<45	**1,800**	<100	**1,800**	<0.2	<0.2	<0.4	1.3	--	--
04/23/16		100.60	3.44	0.00	97.16	400	72	**1,400**	<100	**1,600**	<0.2	0.3	0.5	1.2	--	--
06/10-12/20		100.60	3.97	0.00	96.63	27	--	**760**	--	**1,200**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		100.60	5.62	0.00	94.98											
12/08/20		100.60	3.03	0.00	97.57	19	<46	360	<100	**630**	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		100.60	3.03	0.00	97.57	160	--	**840**	--	**770**	<0.3	<0.4	<0.2	<0.4	--	--
11/29/21		100.60	2.64	0.00	97.96	<19	--	430	--	**770**	<0.3	<0.2	<0.4	<0.4	<0.2	--
MW-22																
08/31/10		100.62	6.21	0.00	94.41	81	**2,300**	--	**1,100**	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		100.62	6.55	0.00	94.07	300	**950**	--	440	--	0.7	<0.5	<0.5	2.8	--	--
01/09/12		100.62	5.42	0.00	95.20	590	**14,000**	--	**6,500**	--	<2.0	<0.5	<0.5	1.9	--	--
04/10/12		100.62	4.90	0.00	95.72	56	65	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		100.62	5.74	0.00	94.88	520	**6,700**	--	**2,400**	--	0.6	<0.5	0.6	3.5	--	--
10/09/12		100.62	6.63	0.00	93.99	280	**4,900**	--	**2,600**	--	0.5	0.6	0.6	2.7	--	--
01/08/13		100.62	4.90	0.00	95.72	70	220	--	150	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		100.62	5.13	0.00	95.49	52	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		100.62	6.12	0.00	94.50	350	--	**3,300**	--	**1,200**	0.7	0.7	0.70	3.3	--	--
11/05-06/13		100.62	5.73	0.00	94.89	360	--	**3,500**	--	**1,800**	0.7	<1.0	0.6	2.9	--	--
01/07-09/14		100.62	5.87	0.00	94.75	390	--	**3,200**	--	**930**	<2.0	0.6	0.7	3.9	--	--
04/07-08/14		100.62	4.88	0.00	95.74	150	52	**2,800**	<66	**2,100**	<0.5	<0.5	<0.5	<1.5	--	
07/07-09/14		100.62	5.90	0.00	94.72	370	**790**	**3,800**	260	**1,800**	<2.0	0.6	0.6	3.5	--	--
10/07-08/14		100.62	6.73	0.00	93.89	<50	34	47	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		100.62	4.75	0.00	95.87	120	36	**2,800**	<68	**1,100**	<0.5	<0.5	<0.5	<1.7	<2.5	--
04/06-08/15		100.62	5.24	0.00	95.38	130	73	**3,000**	<66	**840**	<0.6	<0.5	<0.5	<1.5	--	--
07/23/15		100.62	6.38	0.00	94.24	420	**3,800**	**5,800**	**1,600**	**2,700**	0.5	<0.5	0.6	3.2	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-22 cont.																
10/19-20/15		100.62	6.41	0.00	94.21	550	**9,300**	**22,000**	**4,200**	**12,000**	<0.2	0.9	0.8	3.7	--	--
01/12-13/16		100.62	4.75	0.00	95.87	450	210	**3,000**	<100	**2,300**	<0.4	0.2	<0.6	1.8	--	--
04/23/16		100.62	5.26	0.00	95.36	490	**1,200**	**1,100**	410	390	<2.0	0.6	0.6	2.8	--	--
06/10-12/20		100.62	5.85	0.00	94.77	330	--	**15,000**	--	**8,500**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		100.62	7.25	0.00	93.37											
12/08/20		100.62	5.61	0.00	95.01	310	**1,500**	**3,600**	**760**	**2,200**	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		100.62		0.00	100.62	**950**	--	**2,800**	--	**1,500**	<0.30	0.28	<0.4	0.78	--	--
11/30/21		100.62	4.65	0.00	95.97	320	--	**1,800**	--	**1,400**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		100.62	5.03	0.00	95.59	380	--	**2,600**	--	**1,700**	<0.3	0.25	<0.4	<0.4	<0.2	--
06/22/22		100.62	5.28	0.00	95.34	360	--	**2,300**	--	**910**	<0.3	0.28	<0.4	0.75	--	--
10/05/22		100.62	6.55	0.00	94.07	500	--	**10,000**	--	**5,300**	<0.3	<0.3	<0.4	<1.4	--	--
MW-23																
02/21/19		--	--	--	--	--	--	65	--	<110	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	6.67	0.00	--	<250	--	<100	--	<260	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.36	0.00	--	--	--	--	--							
12/08/20		--	6.67	0.00	--	<19	72	64	160	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		--		0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		--	5.28	0.00	--	<19	--	<48	--	<110	<0.3	<0.2	<0.4	<0.4	--	--
04/06/22		--	6.03	0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
06/20/22		--	5.93	0.00	--	<22	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	7.27	0.00	--	<43	--	<46	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
MW-24																
02/21/19		--	5.65	0.00	--	<250	--	**1,600**	--	350	<0.2	<0.2	<0.4	<1	<1	ND
06/10-12/20		--	6.34	0.00	--	<250	--	**1,000**	--	**900**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.05	0.00	--											
12/08/20		--	6.89	0.00	--	<19	<46	210	<100	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--	6.89	0.00	--	<19	--	270	--	200	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	5.09	0.00	--	38	--	**3,500**	--	**930**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	5.12	0.00	--	34	--	**1,100**	--	350	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	5.43	0.00	--	29	--	**1,300**	--	300	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		--	UNABLE TO ACCESS													
MW-25																
02/21/19		--	--	--	--	--	--	73	--	<110	0.4	<0.2	<0.4	<1	--	--
12/08/20		--	4.51	0.00	--	**1,200**	270	490	**1,600**	**2,900**	1.1	0.33	0.87	<1.4	--	--
07/08/21		--		0.00	--	**1,700**	--	180	--	190	2.9	0.86	2.5	<0.4	--	--
12/01/21		--	3.33	0.00	--	400	--	98	--	<100	0.56	<0.2	0.52	<0.4	<0.2	--
04/06/22		--	3.66	0.00	--	**940**	--	190	--	<110	1.7	0.47	1.2	<0.4	<0.2	--
06/21/22		--	4.04	0.00	--	**1,500**	--	350	--	140	1.7	0.67	2.2	<0.4	--	--
10/05/22		--	5.66	0.00	--	**1,400**	--	320	--	110	1.3	0.54	1.9	<1.4	--	--
MW-26																
02/21/19		--	3.40	0.00	--	<250	--	430	--	160	<0.2	<0.2	<0.4	<1	<1	ND
06/10-12/20		--	4.33	0.00	--	44	--	**3,600**	--	**1,400**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	5.25	0.00	--											
12/09/20		--	4.08	0.00	--	20	<46	**510**	<100	310	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	93	--	**4,000**	--	**1,800**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		--	2.79	0.00	--	29	--	**610**	--	340	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	3.35	0.00	--	26	--	**1,500**	--	360	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	3.58	0.00	--	32	--	**1,800**	--	450	<0.3	<0.2	<0.4	<0.4	<0.2	--
10/05/22		--	5.38	0.00	--	<43	--	**1,200**	--	**520**	<0.3	<0.3	<0.4	<1.4		--
MW-29																
02/21/19		--	5.15	0.00	--	--	--	**7,200**	--	**590**	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	6.52	0.00	--	**810**	--	**22,000**	--	**2,100**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.15	0.00	--		--									
12/08/20		--	6.18	0.00	--	200	52	**870**	<100	180	<0.4	<0.4	<0.8	<2.8	--	--
07/08/21		--		0.00	--	**1,500**	--	**8,800**	--	**1,100**	<0.6	0.51	<0.8	<0.8	--	--
12/01/21		--	5.00	0.00	--	33	--	140	--	<100	<0.6	<0.4	<0.8	<0.8	<0.4	--
04/06/22		--	5.78	0.00	--	390	--	**8,100**	--	**620**	<6	<4	<8	<8	<4	--
06/22/22		--	5.98	0.00	--	640	--	<47	--	<110	<0.6	<0.4	<0.8	<0.8	--	--
10/06/22		--	7.09	0.00	--	**1,000**	--	**6,900**	--	**710**	<0.3	<0.3	<0.4	<1.4	--	--
MW-30																
02/21/19		--	4.57	0.00	--	--	--	**8,500**	--	**2,400**	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	5.45	0.00	--	200	--	**6,800**	--	**2,000**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	6.00	0.00	--											
12/08/20		--	5.41	0.00	--	180	**1,300**	**7,900**	**1,900**	**4,600**	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	200	--	**7,000**	--	**2,100**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	4.11	0.00	--	31	--	**2,300**	--	**1,300**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	4.59	0.00	--	65	--	**8,400**	--	**2,500**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	4.65	0.00	--	30	--	**5,600**	--	**2,100**	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	6.06	0.00	--	120	--	**5,100**	--	**2,300**	<0.3	<0.3	<0.4	<1.4	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-31																
02/21/19		--	5.99	0.00	--	260	--	**22,000**	--	170	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	6.48	0.00	--	34	--	**640**	--	**510**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.00	0.00	--											
12/08/20		--	6.72	0.00	--	24	<47	**510**	<100	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	<19	--	140	--	130	<0.3	0.39	<0.4	<0.4	--	--
12/01/21		--	5.64	0.00	--	<19	--	190	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	6.24	0.00	--	<19	--	190	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	5.95	0.00	--	<22	--	230	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	7.12	0.00	--	<43	--	140	--	480	<0.3	<0.3	<0.4	<1.4	--	--
MW-32																
06/10-12/20		--	3.15	0.00	--	**2,400**	--	**6,000**	--	**790**	0.93	0.35	0.20	<3.0	--	--
09/19/20		--	4.50	0.00	--											
12/08/20		--	2.94	0.00	--	**2,000**	**1,800**	**3,500**	<100	240	0.94	0.41	<0.4	<1.4	--	--
07/06/21		--		0.00	--	**1,300**	--	**860**	--	280	<0.3	<0.4	<0.2	<0.4	--	--
11/29/21		--	1.99	0.00	--	450	--	**700**	--	170	<0.3	<0.2	<0.4	<0.4	--	--
04/05/22		--	1.77	0.00	--	160	--	97	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	2.32	0.00	--	400	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		--	4.43	0.00	--	780	--	**1,600**	--	180	<0.3	<0.3	<0.4	<1.4	--	--
MW-34																
03/04/21		--		0.00	--	<19	--	<46	--	<100	--	--	--	--	--	--
07/09/21		--		0.00	--	<19	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		--	6.96	0.00	--	<19	--	<45	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/07/22		--	7.73	0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	7.65	0.00	--	<22	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	8.80	0.00	--	<43	--	<46	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
MW-36																
01/10/21		--		0.00	--	<19	--	67	--	<100	<0.2	<0.2	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	<19	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	5.64	0.00	--	<19	--	100	--	<110	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	6.24	0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	5.98	0.00	--	<22	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	DRY	--	--	INSUFFICIENT WATER FOR SAMPLE			--	--	--	--	--	--	--	--
MW-37																
01/10/21		--		0.00	--	28	--	320	--	**720**	<0.2	<0.2	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	<19	--	67	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	6.55	0.00	--	28	--	190	--	390	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	7.29	0.00	--	<19	--	**1,400**	--	**4,900**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	6.95	0.00	--	<22	--	100	--	110	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	8.21	0.00	--	<43	--	**560**	--	**2,300**	<0.3	<0.3	<0.4	<1.4	--	--
MW-38																
01/10/21		--		0.00	--	<19	--	200	--	**580**	<0.2	<0.2	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	<19	--	56	--	<110	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	7.09	0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	7.74	0.00	--	<19	--	260	--	**650**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	7.55	0.00	--	<22	--	--	--	--	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	8.95	0.00	--	<43	--	57	--	<110	<0.3	<0.3	<0.4	<1.4	--	--
MW-39																
03/04/21		--		0.00	--	140	--	**2,200**	--	**2,600**	--	--	--	--	--	--
07/08/21		--		0.00	--	170	--	**4,400**	--	**1,200**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	4.80	0.00	--	97	--	**2,700**	--	310	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/07/22		--	5.34	0.00	--	65	--	370	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		--	5.62	0.00	--	58	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	6.80	0.00	--	200	--	**10,000**	--	**2,400**	<0.3	<0.3	<0.4	<1.4	--	--
D-1																
09/23/92		101.96	8.74	--	93.22	180	**2,100**	--	--	--	ND	ND	ND	ND	--	--
01/11/93		101.96	9.50	--	92.46	--	--	--	--	--	--	--	--	--	--	--
06/04/93		101.96	9.75	--	92.21	100	**22,000**	--	--	--	0.6	ND	ND	ND	--	--
12/15/93		101.96	9.28	--	92.68	150	**2,400**	--	--	--	ND	ND	ND	1.0	--	0.14
06/03/94		101.96	10.53	--	91.43	290	**2,600**	--	ND	--	ND	ND	ND	ND	--	0.14
11/01/94		101.96	10.15	--	91.81	170	**2,800**	--	ND	--	ND	ND	ND	0.9	--	0.1 - 0.2
02/09/95		101.96	8.82	--	93.14	170	**2,800**	--	420	--	ND	ND	ND	ND	--	ND - 5.0
05/02/95		101.96	9.87	--	92.09	110	**6,000**	--	ND	--	ND	ND	ND	ND	--	ND
08/02/95		101.96	10.43	--	91.53	ND	**4,800**	--	**900**	--	ND	ND	ND	ND	--	ND
12/05/95		101.96	8.30	--	93.66	58	**4,200**	--	**950**	--	ND	ND	ND	ND	--	ND
03/18/96		101.96	10.30	--	91.66	91	**3,600**	--	ND	--	ND	ND	ND	2.1	--	ND
06/26/96		101.96	10.95	--	91.01	--	**4,430**	--	**896**	--	--	--	--	--	--	--
09/09/96		101.96	11.27	--	90.69	--	**3,910**	--	ND	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-1 cont.																
12/30/96		101.96	7.25	--	94.71	--	**3,400**	--	ND	--	--	--	--	--	--	--
03/07/97		101.96	9.26	--	92.70	--	**5,010**	--	ND	--	--	--	--	--	--	ND
06/09/97		101.96	9.50	--	92.46	--	**4,530**	--	ND	--	--	--	--	--	--	ND
09/04/97		101.96	10.20	--	91.76	--	**3,730**	--	ND	--	--	--	--	--	--	ND - 0.114
12/17/97		101.96	8.14	--	93.82	--	**3,190**	--	ND	--	--	--	--	--	--	--
06/01/98		101.96	9.76	--	92.20	--	**3,120**	--	ND	--	--	--	--	--	--	--
11/01/98		101.96	11.06	0.00	90.90	--	**1,770**	--	ND	--	--	--	--	--	--	--
05/30/99		101.96	10.43	0.00	91.53	--	**4,480**	--	ND	--	--	--	--	--	--	--
06/11-12/00		101.96	9.97	0.00	91.99	--	--	--	--	--	--	--	--	--	--	--
04/04/02	NP	101.96	9.62	0.00	92.34	--	**6,200**	--	<1,100	--	--	--	--	--	--	--
04/28/03	NP	101.96	9.62	0.00	92.34	--	**6,700**	--	**520**	--	--	--	--	--	--	--
04/15/04	NP	101.96	9.78	0.00	92.18	--	**6,500**	--	400	--	--	--	--	--	--	--
04/29/05	NP	101.96	9.41	0.00	92.55	--	**6,200**	--	**1,200**	--	--	--	--	--	--	--
04/27/06	NP	101.96	10.42	0.00	91.54	--	**5,000**	--	<1,000	--	--	--	--	--	--	--
12/09/08	LFP	101.99	9.50	0.00	92.49	460	**3,400**	--	<690	--	ND	ND	ND	ND	ND	--
08/31/10		103.22	12.03	0.00	91.19	200	**3,200**	--	<360	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		103.22	11.85	0.00	91.37	680	250	--	<68	--	<5.0	0.9	1.3	4	--	--
01/10/12		103.22	10.85	0.00	92.37	160	240	--	<73	--	<0.5	<0.5	<0.5	<5.0	--	--
04/10/12		103.22	9.90	0.00	93.32	110	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		103.22	10.93	0.00	92.29	160	<31	--	<73	--	<0.5	<0.5	<0.5	1.6	--	--
10/10/12		103.22	12.43	0.00	90.79	140	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
01/09/13		103.22	9.92	0.00	93.30	50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		103.22	10.80	0.00	92.42	99	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		103.22	10.48	0.00	92.74	99	--	**5,200**	--	**590**	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		103.22	10.94	0.00	92.28	120	--	**3,600**	--	300	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		103.22	11.15	0.00	92.07	110	--	**6,100**	--	**710**	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		103.22	10.58	0.00	92.64	110	<29	**5,200**	<67	**820**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		103.22	11.83	0.00	91.39	150	<28	**5,900**	<66	**730**	<0.5	<0.5	<0.5	1.6	--	--
10/07-08/14		103.22	11.99	0.00	91.23	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		103.22	9.95	0.00	93.27	170	**540**	**1,500**	<66	**620**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		103.22	10.44	0.00	92.78	95	<28	**5,400**	<66	340	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		103.22	11.64	0.00	91.58	220	61	**7,000**	<100	**570**	<0.5	<0.5	<0.5	<1.5	--	--
10/19-20/15		103.22	10.88	0.00	92.34	290	<46	**6,100**	<100	**660**	0.4	<0.2	<0.2	0.4	--	--
01/12-13/16		103.22	9.84	0.00	93.38	320	<46	**6,300**	<100	**810**	<0.2	<0.2	<0.4	1.4	--	--
04/23/16		103.22	10.69	0.00	92.53	290	<46	**8,000**	<100	**1,500**	<0.2	<0.2	0.3	1.6	--	--
06/10-12/20		103.22	10.78	0.00	92.44	240	--	**4,500**	--	**930**	<0.2	<0.2	<0.2	<0.8	--	--
09/19-21/20		103.22	11.29	0.00	91.93											
12/10/20		103.22	11.35	0.00	91.87	270	48	**4,100**	<100	**580**	<0.4	<0.4	<0.8	<2.8	--	--
07/06/21		103.22		0.00	103.22	230	--	**4,900**	--	**710**	<1.5	<2.0	<1.0	<2.0	--	--
11/29/21		103.22	9.61	0.00	93.61	270	--	**3,200**	--	**530**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		103.22	11.26	0.00	91.96	250	--	**5,600**	--	**750**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		103.22	10.91	0.00	92.31	240	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		103.22	12.09	0.00	91.13	260	--	**4,300**	--	**700**	<0.3	<0.3	<0.4	<1.4	--	--
D-2A																
09/23/92		100.80	--	--	--	25	**690**	--	--	--	**11**	ND	ND	ND	--	--
01/11/93		100.80	8.20	--	92.60	--	--	--	--	--	--	--	--	--	--	--
06/04/93		100.80	8.55	--	92.25	ND	ND	--	--	--	ND	ND	ND	ND	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-2A cont.																
12/15/93		100.80	7.89	--	92.91	ND	**660**	--	--	--	ND	ND	ND	ND	--	ND
06/04/94		100.80	9.33	--	91.47	ND	**760**	--	ND	--	ND	ND	ND	ND	--	ND
11/01/94		100.80	8.67	--	92.13	ND	**860**	--	ND	--	ND	ND	ND	0.8	--	ND
02/09/95		100.80	7.63	--	93.17	60	**590**	--	ND	--	ND	ND	ND	ND	--	ND
05/02/95		100.80	8.58	--	92.22	ND	**1,700**	--	ND	--	ND	ND	ND	ND	--	ND
08/02/95		100.80	9.27	--	91.53	ND	**1,600**	--	ND	--	ND	ND	ND	ND	--	ND
12/05/95		100.80	7.20	--	93.60	ND	**2,300**	--	**1,100**	--	ND	ND	ND	ND	--	ND
03/18/96		100.80	8.96	--	91.84	ND	**820**	--	ND	--	ND	ND	ND	ND	--	ND
06/26/96		100.80	9.55	--	91.25	--	**2,230**	--	ND	--	--	--	--	--	--	--
09/09/96		100.80	9.80	--	91.00	--	**1,900**	--	ND	--	--	--	--	--	--	--
12/30/96		100.80	6.00	--	94.80	--	**2,390**	--	ND	--	--	--	--	--	--	--
03/07/97		100.80	7.85	--	92.95	--	**2,280**	--	ND	--	--	--	--	--	--	ND
06/09/97		100.80	8.25	--	92.55	--	**2,200**	--	ND	--	--	--	--	--	--	ND
09/04/97		100.80	9.17	--	91.63	--	**1,930**	--	ND	--	--	--	--	--	--	ND
12/17/97		100.80	6.99	--	93.81	--	**1,100**	--	ND	--	--	--	--	--	--	--
06/01/98		100.80	8.52	--	92.28	--	**1,200**	--	ND	--	--	--	--	--	--	--
11/01/98		100.80	9.64	0.00	91.16	--	**592**	--	ND	--	--	--	--	--	--	--
05/30/99		100.80	9.10	0.00	91.70	--	**1,380**	--	ND	--	--	--	--	--	--	--
06/11-12/00		100.80	9.08	0.00	91.72	--	--	--	--	--	--	--	--	--	--	--
04/04/02	NP	100.80	8.24	0.00	92.56	--	**2,200**	--	<750	--	--	--	--	--	--	--
04/28/03	NP	100.80	8.16	0.00	92.64	--	**2,700**	--	**610**	--	--	--	--	--	--	--
04/15/04	NP	100.80	8.60	0.00	92.20	--	**2,400**	--	350	--	--	--	--	--	--	--
04/29/05	NP	100.80	8.00	0.00	92.80	--	**2,400**	--	**870**	--	--	--	--	--	--	--
04/27/06	NP	100.80	8.89	0.00	91.91	--	**1,700**	--	<500	--	--	--	--	--	--	--
12/09/08	LFP	100.78	8.75	0.00	92.03	ND	**1,000**	--	190	--	ND	ND	ND	ND	ND	--
08/31/10		100.78	9.37	0.00	91.41	<50	**2,100**	--	**810**	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		100.78	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	
01/09/12		100.78	8.10	0.00	92.68	<50	45	--	150	--	<0.5	<0.5	<0.5	<1.5	--	--
04/11/12		100.78	7.35	0.00	93.43	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
07/09/12		100.78	9.30	0.00	91.48	<50	<31	--	<73	--	<0.5	<0.5	<0.5	<1.5	--	--
10/09/12		100.78	9.59	0.00	91.19	<50	63	--	320	--	<0.5	<0.5	<0.5	<1.5	--	--
01/07/13		100.78	7.80	0.00	92.98	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		100.78	8.40	0.00	92.38	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		100.78	8.84	0.00	91.94	<50	--	**3,700**	--	**1,000**	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		100.78	8.50	0.00	92.28	<50	--	**2,800**	--	**740**	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		100.78	8.70	0.00	92.08	<50	--	**3,100**	--	**620**	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		100.78	7.89	0.00	92.89	<50	<29	**3,000**	<67	**1,300**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		100.78	8.99	0.00	91.79	**39,000**	**3,500**	**5,200**	**500**	**640**	**140**	**1,400**	490	**4,200**	--	--
10/07-08/14		100.78	8.13	0.00	92.65	<50	<29	240	<67	<67	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		100.78	7.43	0.00	93.35	<50	<28	**2,800**	<66	**870**	<0.5	<0.5	<0.5	<1.5	<2.5	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-2A cont.																
04/06-08/15		100.78	7.97	0.00	92.81	<50	<28	**2,800**	<66	560	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		100.78	UNABLE TO ATTEMPT			--	--	--	102	--	--	--	--	--	--	--
10/19-20/15		100.78	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
01/12-13/16		100.78	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
04/23/16		100.78	UNABLE TO ATTEMPT			--	--	--	--	--	--	--	--	--	--	--
06/10-12/20		100.78	8.10	0.00	92.68	55	--	**1,700**	--	**880**	<1.0	<1.0	<1.0	<3.0	--	--
09/19-21/20		100.78	8.60	0.00	92.18											
12/08/20		100.78	8.76	0.00	92.02	50	<45	**1,400**	<100	**680**	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		100.78		0.00	100.78	82	--	**2,100**	--	**1,000**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		100.78	7.42	0.00	93.36	50	--	**1,300**	--	**650**	<0.3	<0.2	<0.4	<0.4	<0.2	--
D-3																
09/23/92		101.04	8.00	--	93.04	75	**1,200**	--	--	--	ND	ND	ND	ND	--	--
01/11/93		101.04	8.40	--	92.64	--	--	--	--	--	--	--	--	--	--	--
06/04/93		101.04	8.58	--	92.46	ND	**780**	--	--	--	ND	ND	ND	ND	--	--
12/15/93		101.04	8.19	--	92.85	ND	**1,900**	--	--	--	ND	ND	ND	ND	--	ND
06/03/94		101.04	9.41	--	91.63	ND	**1,700**	--	ND	--	ND	ND	ND	ND	--	ND
11/01/94		101.04	8.86	--	92.18	ND	**1,400**	--	ND	--	ND	ND	ND	ND	--	ND
02/09/95		101.04	7.77	--	93.27	100	**1,600**	--	270	--	ND	ND	ND	ND	--	ND
05/02/95		101.04	8.57	--	92.47	57	**5,100**	--	**940**	--	ND	ND	ND	ND	--	ND
08/02/95		101.04	9.44	--	91.60	ND	**4,100**	--	**810**	--	ND	ND	ND	ND	--	ND
12/05/95		101.04	7.20	--	93.84	ND	**4,400**	--	**930**	--	ND	ND	ND	ND	--	ND
03/18/96		101.04	9.14	--	91.90	85	**1,500**	--	ND	--	ND	0.79	ND	2.2	--	ND
06/26/96		101.04	9.75	--	91.29	--	**4,120**	--	ND	--	--	--	--	--	--	--
09/09/96		101.04	10.00	--	91.04	--	**3,850**	--	ND	--	--	--	--	--	--	--
12/30/96		101.04	6.35	--	94.69	--	**3,120**	--	ND	--	--	--	--	--	--	--
03/07/97		101.04	8.10	--	92.94	--	**2,760**	--	ND	--	--	--	--	--	--	ND
06/09/97		101.04	8.10	--	92.94	--	**2,680**	--	ND	--	--	--	--	--	--	ND
09/04/97		101.04	9.08	--	91.96	--	**4,080**	--	ND	--	--	--	--	--	--	ND - 0.178
12/17/97		101.04	7.29	--	93.75	--	**3,300**	--	ND	--	--	--	--	--	--	--
06/01/98		101.04	8.68	--	92.36	--	**3,160**	--	**1,530**	--	--	--	--	--	--	--
11/01/98		101.04	9.88	0.00	91.16	--	**1,630**	--	ND	--	--	--	--	--	--	--
05/30/99		101.04	9.29	0.00	91.75	--	**3,870**	--	ND	--	--	--	--	--	--	--
06/11-12/00		101.04	8.97	0.00	92.07	--	--	--	--	--	--	--	--	--	--	--
04/04/02	NP	101.04	8.45	0.00	92.59	--	**3,500**	--	<750	--	--	--	--	--	--	--
04/28/03	NP	101.04	8.28	0.00	92.76	--	**2,800**	--	**530**	--	--	--	--	--	--	--
04/15/04	NP	101.04	8.76	0.00	92.28	--	**3,200**	--	420	--	--	--	--	--	--	--
04/29/05	NP	101.04	8.25	0.00	92.79	--	**2,800**	--	**860**	--	--	--	--	--	--	--
04/27/06	NP	101.04	9.11	0.00	91.93	--	**2,900**	--	<510	--	--	--	--	--	--	--
12/10/08	LFP	101.04	8.91	0.00	92.13	--	**2,900**	--	<510	--	--	--	--	--	--	--
08/31/10		102.22	10.88	0.00	91.34	140	**2,600**	--	<360	--	<0.5	<0.5	<0.5	<0.5	--	--
08/31/10 (D)		102.22	10.88	0.00	91.34	130	**2,500**	--	<360	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		102.22	10.55	0.00	91.67	75	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
01/10/12		102.22	9.70	0.00	92.52	84	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
04/10/12		102.22	8.80	0.00	93.42	82	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-3 cont.																
07/10/12		102.22	9.97	0.00	92.25	120	<30	--	<71	--	<0.5	<0.5	<0.5	<1.5	--	--
10/09/12		102.22	10.86	0.00	91.36	67	<29	--	<67	--	<0.5	<0.5	<0.5	<2.0	--	--
01/08/13		102.22	8.90	0.00	93.32	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		102.22	5.34	0.00	96.88	77	<28	--	<66	--	<0.5	<0.5	<0.5	<5.0	--	--
09/25-26/13		102.22	10.48	0.00	91.74	<50	--	**3,000**	--	350	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		102.22	9.96	0.00	92.26	52	--	**3,400**	--	430	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		102.22	10.17	0.00	92.05	<50	--	**4,400**	--	**860**	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		102.22	9.26	0.00	92.96	100	<29	**4,900**	<67	**990**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		102.22	10.22	0.00	92.00	110	<28	**4,000**	<66	**930**	<0.5	<0.5	<0.5	<1.5	--	--
10/07-08/14		102.22	10.13	0.00	92.09	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		102.22	8.88	0.00	93.34	<50	<28	**4,000**	<66	**890**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		102.22	9.37	0.00	92.85	110	<29	**3,500**	<67	450	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		102.22	10.48	0.00	91.74	91	<46	**6,000**	<100	**620**	<0.5	<0.5	<0.5	<1.5	--	--
10/19-20/15		102.22	10.02	0.00	92.20	200	<45	**3,700**	<100	**1,100**	<0.2	0.2	<0.2	0.5	--	--
01/12-13/16		102.22	8.76	0.00	93.46	280	<46	**4,300**	<100	**1,000**	<0.2	<0.2	<0.2	1.1	--	--
04/23/16		102.22	9.40	0.00	92.82	190	<46	**4,300**	<100	**880**	<0.2	<0.2	<0.2	0.7	--	--
D-3A																
07/06/21				0.00	0.00	140	--	**3,400**	--	**680**	<0.3	<0.2	<0.4	<0.4	--	--
11/29/21			6.61	0.00	--	190	--	**4,900**	--	**770**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22			7.70	0.00	--	93	--	**3,500**	--	**720**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22			7.33	0.00	--	73	--	<110	--	<270	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22			8.55	0.00	--	170	--	**3,400**	--	**910**	<0.3	<0.3	<0.4	<1.4	--	--
D-6					--											
08/31/10		104.20	12.71	0.00	91.49	110	**2,000**	--	<360	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		104.20	12.17	0.00	92.03	140	**1,100**	--	82	--	<0.5	<0.5	<0.5	<1.5	--	--
01/10/12		104.20	11.25	0.00	92.95	160	32	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
04/11/12		104.20	10.50	0.00	93.70	81	32	--	<72	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		104.20	12.06	0.00	92.14	130	<31	--	<71	--	<0.5	<0.5	<0.5	1.9	--	--
10/10/12		104.20	13.05	0.00	91.15	140	34	--	<66	--	0.9	<0.5	0.6	<1.5	--	--
01/09/13		104.20	13.45	0.00	90.75	100	<29	--	<67	--	<0.5	<0.5	<0.5	1.7	--	--
04/09/13		104.20	14.21	0.00	89.99	140	<29	--	<67	--	0.7	<0.5	<0.5	1.6	--	--
09/25-26/13		104.20	12.20	0.00	92.00	170	--	**5,000**	--	450	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		104.20	11.74	0.00	92.46	250	--	**4,000**	--	350	<0.5	<0.5	0.7	<5.0	--	--
01/07-09/14		104.20	15.45	0.00	88.75	180	--	**6,900**	--	**1,100**	<2.0	<0.5	<0.5	1.8	--	--
04/07-08/14		104.20	12.52	0.00	91.68	150	<29	**5,300**	<69	**1,100**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		104.20	16.88	0.00	87.32	**8,900**	160	150	<66	<66	**7.6**	160	100	940	--	--
10/07-08/14		104.20	12.93	0.00	91.27	<50	53	84	<68	<68	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		104.20	10.98	0.00	93.22	200	39	**3,500**	<67	**870**	<0.7	<0.5	0.6	<2.8	<2.5	--
04/06-08/15		104.20	10.39	0.00	93.81	160	<28	**3,400**	**500**	<66	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		104.20	14.81	0.00	89.39	300	47	**4,800**	<100	**670**	0.6	0.6	0.6	<3.0	--	--
10/19-20/15		104.20	11.80	0.00	92.40	270	<46	**3,700**	<100	**930**	<0.2	0.5	0.5	1.2	--	--
01/12-13/16		104.20	10.36	0.00	93.84	290	<46	**3,600**	**750**	<100	<0.2	<0.2	<0.4	<1.5	--	--
04/23/16		104.20	11.51	0.00	92.69	350	100	**5,700**	<100	410	<0.3	0.2	<0.2	1.6	--	--
06/10-12/20		104.20	12.16	0.00	92.04	380	--	**8,200**	--	**1,200**	<1.0	0.22	<1.0	<3.0	--	--
09/19-21/20		104.20	12.05	0.00	92.15											

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-6 cont.																
12/10/20		104.20	12.30	0.00	91.90	320	<46	**5,200**	<100	**580**	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		104.20		0.00	104.20	420	--	**5,700**	--	**780**	<0.3	0.20	<0.4	<0.4	--	--
11/29/21		104.20	10.29	0.00	93.91	350	--	**4,000**	--	**590**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		104.20	12.09	0.00	92.11	350	--	**4,500**	--	380	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		104.20	11.70	0.00	92.50	310	--	49	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		104.20	12.86	0.00	91.34	410	--	**4,100**	--	**500**	<0.3	<0.3	<0.4	<1.4	--	--
D-7																
08/31/10		100.38	8.86	0.00	91.52	<50	**1,600**	--	<690	--	<0.5	<0.5	<0.5	<0.5	--	--
10/07/11		100.38	8.50	0.00	91.88	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
01/09/12		100.38	7.80	0.00	92.58	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
04/10/12		100.38	7.00	0.00	93.38	<50	38	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		100.38	7.94	0.00	92.44	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--
10/09/12		100.38	8.58	0.00	91.80	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--
01/08/13		100.38	7.28	0.00	93.10	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		100.38	7.67	0.00	92.71	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		100.38	8.22	0.00	92.16	<50	--	**990**	--	420	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		100.38	8.29	0.00	92.09	<50	--	**790**	--	210	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		100.38	8.34	0.00	92.04	<50	--	**1,500**	--	**740**	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		100.38	7.36	0.00	93.02	<50	<29	**990**	<67	**640**	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		100.38	7.97	0.00	92.41	<50	<28	**640**	<66	210	<0.5	<0.5	<0.5	<1.5	--	--
10/07-08/14		100.38	8.22	0.00	92.16	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		100.38	7.05	0.00	93.33	<50	<29	**1,100**	<67	**630**	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		100.38	7.69	0.00	92.69	<50	<28	580	210	<66	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		100.38	8.46	0.00	91.92	<50	<46	**660**	<100	460	<0.5	<0.5	<0.5	<1.5	--	--
10/19-20/15		100.38	8.24	0.00	92.14	<50	<47	**970**	<100	**610**	<0.2	<0.2	<0.2	0.2	--	--
01/12-13/16		100.38	7.02	0.00	93.36	120	<45	**1,500**	<100	**640**	<0.2	<0.2	<0.2	0.4	--	--
04/23/16		100.38	7.60	0.00	92.78	57	<46	**980**	<100	360	<0.2	<0.2	<0.2	0.3	--	--
06/10-12/20		100.38	7.21	0.00	93.17	20	--	300	--	360	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		100.38	8.25	0.00	92.13											
12/08/20		100.38	8.28	0.00	92.10	20	<46	420	<100	290	<0.4	<0.4	<0.8	<2.8	--	--
07/06/21		100.38		0.00	100.38	19	--	**500**	--	330	<0.6	3.0	<0.8	<0.8	--	--
11/30/21		100.38	6.81	0.00	93.57	42	--	360	--	320	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		100.38	7.55	0.00	92.83	<19	--	**550**	--	220	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		100.38	7.57	0.00	92.81	<22	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		100.38	8.55	0.00	91.83	160	--	**2,000**	--	**1,200**	<0.3	<0.3	<0.4	<1.4	--	--
D-8																
02/21/19		--	--	--	--	--	--	**3,800**	--	400	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	7.13	0.00	--	86	--	**4,300**	--	**850**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.42	0.00	--											
12/08/20		--	8.13	0.00	--	81	<46	**2,500**	<100	340	<0.2	<0.2	<0.4	<1.4	--	--
07/08/21		--		0.00	--	100	--	**2,900**	--	**730**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		--	6.50	0.00	--	110	--	**4,500**	--	**600**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	7.35	0.00	--	120	--	**3,100**	--	410	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	7.65	0.00	--	47	--	**2,700**	--	**530**	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	7.39	0.00	--	86	--	**2,300**	--	330	<0.3	0.36	<0.4	<1.4	--	--
D-9																
02/21/19		--	5.75	0.00	--	<250	--	**2,700**	--	880	<0.2	<0.2	<0.4	<1	<1	ND
06/10-12/20		--	6.23	0.00	--	53	--	**1,500**	--	**780**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	6.75	0.00	--											
12/08/20		--	6.68	0.00	--	<19	<46	**1,600**	<100	**860**	<0.4	<0.4	<0.8	<2.8	--	--
07/07/21		--		0.00	--	51	--	**3,600**	--	**2,100**	<0.6	0.54	<0.8	<0.8	--	--
12/01/21		--	5.52	0.00	--	<19	--	**1,600**	--	**1,100**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	5.98	0.00	--	26	--	**1,800**	--	**830**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	5.83	0.00	--	25	--	**2,700**	--	**990**	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		--	UNABLE TO ACCESS													

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-10																
02/21/19		--	--	--	--	--	--	**1,600**	--	240	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	7.40	0.00	--	130	--	**2,700**	--	**640**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.78	0.00	--											
12/08/20		--	8.30	0.00	--	<19	<46	99	<100	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		--	UNABLE TO ACCESS													
11/30/21		--	7.36	0.00	--	<19	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	7.94	0.00	--	23	--	260	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	7.73	0.00	--	<22	--	<48	--	<110	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	8.94	0.00	--	<43	--	74	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
D-12																
02/21/19		--	7.57	0.00	--	--	--	**520**	--	330	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	8.21	0.00	--	<250	--	**540**	--	**530**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	8.75	0.00	--											
12/08/20		--	8.97	0.00	--	<19	<46	360	<100	210	<0.2	<0.2	<0.4	<1.4	--	--
07/08/21		--		0.00	--	<19	--	330	--	440	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21			UNABLE TO ACCESS													
04/07/22		--	8.06	0.00	--	<19	--	420	--	260	<6.0	<4.0	<8.0	<8.0	<4.0	--
06/22/22		--	8.40	0.00	--	<22	--	<47	--	<100	<0.6	<0.4	<0.8	<0.8	--	--
10/06/22		--	8.40	0.00	--	<43	--	380	--	140	<0.3	<0.3	<0.4	<1.4	--	--
D-13																
11/29/21		--	5.75	0.00	--	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--	--	--	--	--	--
D-14																
12/10/20		--	11.25	--	--	<19	<46	130	<100	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/06/21		--		--	--	31	--	350	--	170	<0.3	<0.4	<0.2	<0.4	--	--
11/29/21		--	8.28	--	--	29	--	240	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	7.78	--	--	22	--	230	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		--	8.73	--	--	<22	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		--	9.89	--	--	<43	--	210	--	<110	<0.3	<0.3	<0.4	<1.4	--	--
D-15																
02/21/19		--	--	--	--	--	--	**4,500**	--	380	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	8.19	0.00	--	66	--	**1,900**	--	**800**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	8.63	0.00	--											
12/08/20		--	8.89	0.00	--	69	<46	**1,700**	<100	**510**	<0.2	<0.2	<0.4	<1.4	--	--
07/08/21		--		0.00	--	51	--	**1,100**	--	**640**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	7.16	0.00	--	37	--	**1,400**	--	460	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	8.79	0.00	--	81	--	**1,800**	--	380	<6	<4	<8	<8	<4	--
06/22/22		--	8.54	0.00	--	31	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/06/22		--	9.50	0.00	--	57	--	**1,400**	--	340	<0.3	<0.3	<0.4	<1.4	--	--
D-17																
02/21/19		--	5.41	0.00	--	<250	--	**180**	--	130	<0.2	<0.2	<0.4	<1	<1	ND
06/10-12/20		--	6.00	0.00	--	<250	--	470	--	**560**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	6.68	0.00	--	--	--	--	--	--	--	--	--	--	--	--
12/09/20		--	6.29	0.00	--	<19	<100	230	<100	150	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	<19		140		120	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21		--	5.00	0.00	--	21	--	320	--	200	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	5.75	0.00	--	<19	--	320	--	120	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	5.53	0.00	--	<22	--	250	--	100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	6.91	0.00	--	<43	--	330	--	150	<0.3	<0.3	<0.4	<1.4	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-18																
02/21/19		--	5.98	0.00	--	--	--	**910**	--	350	<0.2	<0.2	<0.4	<1	--	--
06/10-12/20		--	6.58	0.00	--	42	--	**1,300**	--	**810**	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.22	0.00	--											
12/09/20		--	7.00	0.00	--	<19	<45	**1,500**	<100	**690**	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	47	--	**2,200**	--	**1,600**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	5.85	0.00	--	22	--	**1,300**	--	**790**	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	6.33	0.00	--	39	--	**1,900**	--	**700**	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	6.13	0.00	--	22	--	**2,500**	--	**770**	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	7.53	0.00	--	<43	--	**520**	--	290	<0.3	<0.3	<0.4	<1.4	--	--
D-19																
02/21/19		--	6.08	0.00	--	<250	--	**570**	--	190	<0.2	<0.2	<0.4	<1	<1	ND
06/10-12/20		--	6.58	0.00	--	<250	--	**530**	--	450	<1.0	<1.0	<1.0	<3.0	--	--
09/19/20		--	7.10	0.00	--											
12/09/20		--	7.10	0.00	--	<19	<45	110	<100	<100	<0.2	<0.2	<0.4	<1.4	--	--
07/07/21		--		0.00	--	<19	--	52	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	5.96	0.00	--	<19	--	140	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/05/22		--	6.36	0.00	--	<19	--	79	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/20/22		--	6.28	0.00	--	<22	--	120	--	<100	<0.3	0.22	<0.4	<0.4	<0.2	--
10/05/22		--	7.55	0.00	--	<43	--	110	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
D-22																
03/04/21		--		0.00	--	33	--	100	--	<100	--	--	--	--	--	--
07/06/21			UNABLE TO ACCESS													
11/30/21			UNABLE TO ACCESS													
04/06/22		--	8.80	0.00	--	44	--	91	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	9.94	0.00	--	<22	--	700	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
10/05/22		--	8.73	0.00	--	<43	--	220	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
D-24																
01/10/21		--		0.00	--	<19	--	200	--	<100	<0.2	0.25	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	20	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	6.38	0.00	--	<19	--	73	--	<110	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	6.96	0.00	--	<19	--	<45	--	<100	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	6.85	0.00	--	<22	--	<47	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	7.86	0.00	--	<43	--	<47	--	<100	<0.3	<0.3	<0.4	<1.4	--	--
D-25																
01/10/21		--		0.00	--	<19	--	65	--	<100	<0.2	<0.2	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	37	--	**1,700**	--	**880**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	7.34	0.00	--	21	--	**520**	--	170	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	8.98	0.00	--	<19	--	**990**	--	260	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	7.82	0.00	--	<22	--	**890**	--	250	<0.3	<0.3	<0.4	<1.4	--	--
10/05/22		--	8.89	0.00	--	<43	--	**2,200**	--	**690**	<0.3	<0.3	<0.4	<1.4	--	--
D-26																
01/10/21		--		0.00	--	21	--	**580**	--	**590**	<0.2	0.24	<0.4	<1.4	<0.2	--
07/08/21		--		0.00	--	<19	--	300	--	300	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	7.80	0.00	--	26	--	480	--	250	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/06/22		--	8.37	0.00	--	21	--	**630**	--	210	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/21/22		--	8.22	0.00	--	<22	--	440	--	200	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	9.32	0.00	--	<43	--	270	--	160	<0.3	<0.3	<0.4	<1.4	--	--
D-27																
03/04/21		--		0.00	--	110	--	**790**	--	400	--	--	--	--	--	--
07/08/21		--		0.00	--	32	--	**900**	--	**740**	<0.3	<0.2	<0.4	<0.4	--	--
12/01/21		--	7.50	0.00	--	53	--	**1,300**	--	430	<0.3	<0.2	<0.4	<0.4	<0.2	--
04/07/22		--	8.20	0.00	--	71	--	**1,300**	--	340	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		--	8.18	0.00	--	27	--	<46	--	<110	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	9.25	0.00	--	43	--	**1,400**	--	440	<0.3	<0.3	<0.4	<1.4	--	--
RMW-1																
07/10/14	LFP	--	5.70	--	--	730	74	--	<69	--	1	1	<0.5	1	--	--
12/08/20		--	5.20	--	--	200	<45	**2,400**	<100	450	<0.2	<0.2	<0.4	<1.4	--	--
07/08/21		--		--	--	690	--	**6,400**	--	**1,000**	<0.3	<0.2	<0.4	<0.4	--	--
11/30/21			UNABLE TO ACCESS													
04/07/22		--	4.39	--	--	98	--	**1,700**	--	**760**	<6.0	<4.0	<8.0	<8.0	<4.0	--
06/22/22		--	4.72	--	--	180	--	<46	--	<100	<0.3	<0.2	<0.4	<0.4	--	--
10/05/22		--	6.30	--	--	470	--	**3,400**	--	450	<0.3	<0.3	<0.4	<1.4	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
No Longer Monitored/Sampled																
MW-6																
06/04/93		101.41	5.73	--	95.68	500	**9,900**	--	--	--	**8.5**	ND	0.7	0.9	--	--
12/15/93		101.41	6.11	--	95.30	ND	400	--	--	--	ND	ND	ND	ND	--	ND
06/03/94		101.41	6.39	--	95.02	ND	--	--	--	--	ND	ND	ND	ND	--	--
11/01/94		101.41	6.93	--	94.48	**1,200**	--	--	--	--	ND	ND	ND	1.2	--	--
02/09/95		101.41	4.82	--	96.59	ND	**1,200**	--	270	--	ND	ND	ND	ND	--	ND
05/02/95		101.41	5.67	--	95.74	ND	**3,000**	--	**1,500**	--	ND	ND	ND	ND	--	ND
08/02/95		101.41	6.70	--	94.71	--	--	--	--	--	--	--	--	--	--	--
12/05/95		101.41	4.53	--	96.88	58	**4,300**	--	**2,000**	--	0.72	ND	ND	ND	--	ND
03/18/96		101.41	5.20	--	96.21	ND	360	--	ND	--	ND	ND	ND	ND	--	--
MW-6 cont.																
06/26/96		101.41	6.23	--	95.18	--	**5,090**	--	**1,230**	--	--	--	--	--	--	--
09/09/96		101.41	6.71	--	94.70	--	--	--	--	--	--	--	--	--	--	--
12/30/96		101.41	3.35	--	98.06	--	**9,470**	--	**999**	--	--	--	--	--	--	--
03/07/97		101.41	4.65	--	96.76	ND	**2,430**	--	ND	--	ND	ND	ND	ND	--	ND
06/09/97		101.41	5.47	--	95.94	--	301	--	ND	--	--	--	--	--	--	ND
09/04/97[4]		101.41	6.94	--	94.47	--	--	--	--	--	--	--	--	--	--	--
12/17/97		101.41	4.92	--	96.49	--	ND	--	ND	--	--	--	--	--	--	--
06/01/98		101.41	6.09	--	95.32	--	**1,510**	--	ND	--	--	--	--	--	--	--
11/01/98		101.41	7.12	0.00	94.29	--	**551**	--	ND	--	--	--	--	--	--	--
05/30/99		101.41	6.08	0.00	95.33	--	**1,060**	--	ND	--	--	--	--	--	--	--
06/11-12/00		101.41	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
09/25/00		101.41	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
01/26/01		101.41	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
01/09/02		101.41	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
04/10-11/12		101.41	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
NOT MONITORED/SAMPLED		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8																
09/23/92		101.32	6.14	--	95.18	500	**7,100**	--	--	--	**1,700**	7.0	4.0	12	--	--
01/11/93		101.32	5.26	--	96.06	--	--	--	--	--	--	--	--	--	--	--
06/04/93		101.32	4.88	--	96.44	**3,400**	**810,000**	--	--	--	21	ND	ND	7.6	--	13 - 600
12/15/93		101.32	4.82	--	96.50	400	--	--	--	--	ND	ND	ND	0.6	--	--
06/04/94		101.32	5.18	--	96.14	**1,300**	--	--	--	--	**13**	1.3	1.0	2.5	--	--
11/01/94		101.32	6.19	--	95.13	**5,800**	--	--	--	--	**46**	4.6	35	300	--	--
02/09/95		101.32	3.92	0.02	97.42	--	--	--	--	--	--	--	--	--	--	--
05/02/95		101.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08/02/95		101.32	6.50	--	94.82	--	--	--	--	--	--	--	--	--	--	--
12/05/95		101.32	3.30	--	98.02	**19,000**	**290,000**	--	**19,000**	--	ND	ND	ND	ND	--	7.2 - 210
03/18/96		101.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06/26/96		101.32	5.15	Sheen	96.17	--	--	--	--	--	--	--	--	--	--	--
09/09/96		101.32	6.25	--	95.07	--	--	--	--	--	--	--	--	--	--	--
12/30/96		101.32	2.15	--	99.17	138	**2,160**	--	**1,800**	--	ND	ND	ND	ND	--	--
03/07/97		101.32	2.90	--	98.42	ND	**1,020**	--	**1,800**	--	ND	ND	ND	ND	--	0.119 - 0.738
09/04/97		101.32	5.96	--	95.36	INSUFFICIENT WATER TO SAMPLE			--	--	--	--	--	--	--	--
DESTROYED	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-9																
09/23/92		99.62	6.15	--	93.47	93	**960**	--	--	--	ND	ND	ND	0.5	--	--
09/23/92 (D)		99.62	--	--	--	99	**790**	--	--	--	ND	ND	ND	0.5	--	--
01/11/93		99.62	4.90	--	94.72	--	--	--	--	--	--	--	--	--	--	--
06/04/93		99.62	5.10	--	94.52	360	**11,000**	--	--	--	ND	ND	ND	0.6	--	0.17 - 0.95
12/15/93		99.62	5.20	--	94.42	ND	**760**	--	--	--	ND	ND	ND	ND	--	0.22 - 0.64
06/04/94		99.62	5.68	--	93.94	730	**16,000**	--	ND	--	ND	ND	ND	2.2	--	1.7
11/01/94		99.62	5.66	--	93.96	ND	**1,000**	--	ND	--	ND	ND	ND	ND	--	0.057 - 0.67
02/09/95		99.62	4.35	--	95.27	250	**11,000**	--	**1,800**	--	ND	ND	ND	ND	--	ND
05/02/95		99.62	4.90	--	94.72	270	**24,000**	--	**2,800**	--	ND	ND	ND	1.0	--	ND
08/02/95		99.62	5.35	--	94.27	400	**36,000**	--	**6,800**	--	ND	0.67	ND	1.6	--	ND
12/05/95		99.62	4.00	--	95.62	ND	**2,700**	--	**2,800**	--	ND	0.73	0.7	4.0	--	ND
03/18/96		99.62	4.80	--	94.82	ND	**3,300**	--	**1,400**	--	ND	ND	ND	ND	--	ND
06/26/96		99.62	4.89	--	94.73	--	**19,700**	--	**3,940**	--	--	--	--	--	--	--
MW-9 cont.																
09/09/96		99.62	5.60	--	94.02	--	**9,110**	--	**1,650**	--	--	--	--	--	--	--
12/30/96		99.62	3.17	--	96.45	--	**2,690**	--	**1,310**	--	--	--	--	--	--	--
03/07/97		99.62	4.30	--	95.32	62	**9,440**	--	**2,030**	--	ND	ND	ND	ND	--	0.126
06/09/97		99.62	4.56	--	95.06	--	**16,300**	--	**3,160**	--	--	--	--	--	--	ND
09/04/97		99.62	5.50	--	94.12	--	**21,700**	--	ND	--	--	--	--	--	--	ND - 1.47
06/01/98		99.62	5.20	--	94.42	--	**19,500**	--	ND	--	--	--	--	--	--	--
11/01/98		99.62	5.84	0.00	93.78	--	**2,280**	--	ND	--	--	--	--	--	--	--
05/30/99		99.62	5.13	0.00	94.49	--	**27,800**	--	ND	--	--	--	--	--	--	--
06/11-12/00		99.62	INACCESSIBLE			--	--	--	--	--	--	--	--	--	--	--
09/25/00		99.62	5.91	0.01	93.71	--	**2,650**	--	**3,060**	--	--	--	--	--	--	--
01/26/01		99.62	4.98	0.00	94.64	--	ND	--	ND	--	--	--	--	--	--	--
01/09/02		99.62	3.34	0.00	96.28	--	346	--	<500	--	--	--	--	--	--	--
04/04/02	NP	99.62	4.69	0.00	94.93	--	**5,700**	--	**1,600**	--	--	--	--	--	--	--
04/28/03	NP	99.62	4.59	0.00	95.03	--	**11,000**	--	**2,100**	--	--	--	--	--	--	--
04/15/04		99.62	INACCESSIBLE - WELL FILLED WITH BENTONITE					--	--	--	--	--	--	--	--	--
04/29/05		99.62	INACCESSIBLE - WELL FILLED WITH BENTONITE					--	--	--	--	--	--	--	--	--
04/27/06		99.62	INACCESSIBLE - WELL FILLED WITH BENTONITE					--	--	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
MW-15																
09/23/92		99.24	4.14	--	95.10	**3,700**	**8,300**	--	--	--	**36**	7.0	14	23	--	--
09/23/92 (D)		99.24	--	--	--	**3,400**	**12,000**	--	--	--	**23**	7.0	12	23	--	--
01/11/93		99.24	2.17	--	97.07	--	--	--	--	--	--	--	--	--	--	--
06/04/93		99.24	1.86	--	97.38	**1,300**	**17,000**	--	--	--	3.0	1.2	1.5	5.1	--	--
12/15/93		99.24	2.75	--	96.49	**1,900**	**19,000**	--	--	--	**10**	2.5	2.9	17	--	0.55 - 3.8
06/03/94		99.24	2.63	--	96.61	**1,800**	**11,000**	--	ND	--	2.1	3.4	4.7	9.2	--	ND
11/01/94		99.24	3.25	--	95.99	**1,900**	**15,000**	--	ND	--	**15**	2.8	4.2	12	--	0.67 - 4.3
02/09/95		99.24	0.95	--	98.29	210	**7,000**	--	**1,400**	--	ND	ND	ND	0.8	--	ND
05/02/95		99.24	1.60	--	97.64	160	**13,000**	--	**2,400**	--	ND	ND	ND	ND	--	ND
08/02/95		99.24	3.43	--	95.81	**1,100**	**17,000**	--	**4,000**	--	**7.7**	1.3	4.2	1.5	--	ND
12/05/95		99.24	0.20	--	99.04	ND	**1,500**	--	**1,500**	--	ND	ND	ND	ND	--	0
03/18/96		99.24	1.12	--	98.12	170	**4,700**	--	**1,700**	--	1.1	0.88	ND	2.3	--	ND
06/26/96		99.24	2.51	--	96.73	--	**5,880**	--	**3,150**	--	--	--	--	--	--	--
09/09/96		99.24	3.70	--	95.54	--	**7,290**	--	**4,700**	--	--	--	--	--	--	--
12/30/96		99.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03/07/97		99.24	0.00	--	99.24	ND	**6,000**	--	**2,030**	--	ND	ND	ND	ND	--	ND
06/09/97		99.24	1.60	--	97.64	--	**3,280**	--	**1,690**	--	--	--	--	--	--	ND
09/04/97		99.24	3.28	--	95.96	--	**6,980**	--	**3,260**	--	--	--	--	--	--	ND
12/17/97		99.24	0.25	--	98.99	--	**6,230**	--	**2,080**	--	--	--	--	--	--	--
06/01/98		99.24	2.28	--	96.96	--	**7,260**	--	**976**	--	--	--	--	--	--	--
11/01/98		99.24	4.14	0.00	95.10	--	**9,540**	--	ND	--	--	--	--	--	--	--
05/30/99		99.24	2.20	0.00	97.04	--	**6,610**	--	**3,930**	--	--	--	--	--	--	--
DESTROYED	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17																
09/23/92		99.64	4.58	--	95.06	**5,100**	**5,300**	--	--	--	**36**	7.0	32	300	--	--
01/11/93		99.64	2.80	--	96.84	--	--	--	--	--	--	--	--	--	--	--
06/04/93		99.64	2.36	--	97.28	**2,300**	**24,000**	--	--	--	**9.0**	1.4	16	61	--	0.18 - 33
12/15/93		99.64	3.31	--	96.33	**20,000**	**45,000**	--	--	--	**19**	6.2	17	110	--	0.73 - 34
06/04/94		99.64	3.18	--	96.46	**990**	**31,000**	--	ND	--	**9.0**	1.1	1.9	8.7	--	0.33 - 28
11/01/94		99.64	3.76	--	95.88	**2,100**	**42,000**	--	**4,600**	--	**16**	1.6	2.6	14	--	0.83 - 23
02/09/95		99.64	1.43	--	98.21	610	**18,000**	--	**1,700**	--	ND	1.0	1.3	3.6	--	ND
05/02/95		99.64	1.97	--	97.67	**890**	**38,000**	--	**6,000**	--	1.8	ND	0.95	3.3	--	ND
08/02/95		99.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/05/95		99.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03/18/96		99.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06/26/96		99.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ABANDONED	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
D-4																
09/23/92		98.76	7.33	--	91.43	ND	420	--	--	--	ND	ND	ND	ND	--	--
01/11/93		98.76	6.00	--	92.76	--	--	--	--	--	--	--	--	--	--	--
06/04/93		98.76	5.71	--	93.05	ND	ND	--	--	--	ND	ND	ND	ND	--	--
12/15/93		98.76	5.75	--	93.01	ND	330	--	--	--	ND	0.5	ND	ND	--	ND
06/04/94		98.76	6.93	--	91.83	ND	ND	--	ND	--	ND	ND	ND	ND	--	ND
11/01/94		98.76	6.29	--	92.47	ND	360	--	ND	--	ND	ND	ND	ND	--	ND
02/09/95		98.76	5.43	--	93.33	ND	200	--	300	--	ND	ND	ND	ND	--	ND
05/02/95		98.76	6.13	--	92.63	ND	390	--	**1,000**	--	ND	ND	ND	ND	--	ND
08/02/95		98.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/05/95		98.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D-4 cont.																
03/18/96		98.76	6.46	--	92.30	ND	ND	--	ND	--	ND	ND	ND	ND	--	ND
06/26/96		98.76	7.10	--	91.66	--	**592**	--	ND	--	--	--	--	--	--	--
09/09/96		98.76	7.35	--	91.41	--	**939**	--	943	--	--	--	--	--	--	--
12/30/96		98.76	7.40	--	91.36	--	311	--	ND	--	--	--	--	--	--	--
03/07/97		98.76	5.55	--	93.21	--	264	--	ND	--	--	--	--	--	--	ND
06/09/97		98.76	5.65	--	93.11	--	ND	--	ND	--	--	--	--	--	--	ND
09/04/97		98.76	6.67	--	92.09	--	**550**	--	ND	--	--	--	--	--	--	ND
12/17/97		98.76	UNABLE TO LOCATE			--	--	--	--	--	--	--	--	--	--	--
06/01/98		98.76	6.34	--	92.42	--	371	--	ND	--	--	--	--	--	--	--
11/01/98		98.76	7.31	0.00	91.45	--	276	--	ND	--	--	--	--	--	--	--
05/30/99		98.76	6.54	0.00	92.22	--	429	--	ND	--	--	--	--	--	--	--
06/11-12/00		98.76	INACCESSIBLE - PAVED OVER				--	--	--	--	--	--	--	--	--	--
NOT MONITORED/SAMPLED			--	--	--	--	--	--	--	--	--	--	--	--	--	--
D-5A																
09/23/92		--	--	--	--	100	**860**	--	--	--	0.7	ND	0.3	0.9	--	--
01/11/93		100.53	7.92	--	92.61	--	--	--	--	--	--	--	--	--	--	--
06/04/93		100.53	8.00	--	92.53	ND	270	--	--	--	ND	ND	ND	ND	--	--
12/15/93		100.53	7.61	--	92.92	ND	**590**	--	--	--	ND	ND	ND	ND	--	ND
06/04/94		100.53	8.91	--	91.62	ND	**960**	--	ND	--	ND	ND	ND	ND	--	ND
11/01/94		100.53	8.33	--	92.20	ND	**1,100**	--	ND	--	ND	ND	ND	0.6	--	ND
02/09/95		100.53	7.30	--	93.23	ND	**610**	--	210	--	ND	ND	ND	ND	--	ND
05/02/95		100.53	8.08	--	92.45	ND	**2,500**	--	ND	--	ND	ND	ND	ND	--	ND
08/02/95		100.53	8.95	--	91.58	ND	**2,800**	--	**1,000**	--	ND	ND	ND	ND	--	ND
12/05/95		100.53	6.72	--	93.81	ND	**6,700**	--	**2,300**	--	ND	ND	ND	ND	--	ND
03/18/96		100.53	8.62	--	91.91	--	--	--	--	--	--	--	--	--	--	--
ABANDONED	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Former Standard Oil Bulk Terminal/Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Well ID/ Date	Purge Method	TOC[1] (ft)	DTW (ft)	SPHT (ft)	GWE[2] (ft)	TPH-GRO (µg/L)	TPH-DRO w/Silica Gel (µg/L)	TPH-DRO w/out Silica (µg/L)	TPH-HRO w/Silica Gel (µg/L)	TPH-HRO w/out Silica (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	PAHs (µg/L)
TRIP BLANK																
06/01/98		--	--	--	--	--	ND	--	ND	--	--	--	--	--	--	--
11/01/98		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05/30/99		--	--	--	--	--	ND	--	ND	--	--	--	--	--	--	--
06/11-12/00		--	--	--	--	ND	--	--	--	--	ND	ND	ND	ND	--	--
09/25/00		--	--	--	--	ND	--	--	--	--	ND	ND	ND	ND	--	--
01/26/01		--	--	--	--	ND	--	--	--	--	ND	ND	ND	ND	ND	--
01/09/02		--	--	--	--	<50.0	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--
04/04/02		--	--	--	--	<50	--	--	--	--	<0.50	<0.50	<0.50	<1.5	--	--
04/28/03		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
04/15/04		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
04/29/05		--	--	--	--	<50	--	--	--	--	--	--	--	--	--	--
04/27/06		--	--	--	--	<48	--	--	--	--	<0.5	<0.5	<0.5	1.5	--	--
12/09/08		--	--	--	--	<50	--	--	--	--	<0.50	<0.50	<0.50	<1.5	<0.50	--
12/10/08		--	--	--	--	<50	--	--	--	--	<0.50	<0.50	<0.50	<1.5	<0.50	--
12/07/11		--	--	--	--	<50	--	--	--	--	<0.50	<0.50	<0.50	<1.5	--	--
01/09/12		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
04/10-11/12		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
07/10/12		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
10/09/12		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
01/08/13		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
04/09/13		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
09/25-26/13		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
11/05-06/13		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
01/07-09/14		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
04/07-08/14		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
07/07-09/14		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
10/06-07/14		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
01/06-07/15		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/06-08/15		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
07/23/15		--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--
10/19-20/15		--	--	--	--	<50	--	--	--	--	<0.2	<0.2	<0.2	<0.2	--	--
01/12-13/16		--	--	--	--	<50	--	--	--	--	<0.2	<0.2	<0.2	<0.2	--	--
04/23/16		--	--	--	--	<50	--	--	--	--	<0.2	<0.2	<0.2	<0.2	--	--
06/10-12/20		--	--	--	--	<250	--	--	--	--	<1.0	<1.0	<1.0	<3.0	--	--
12/08/20		--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1.4	--	--
01/09/21		--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1.4	--	--
07/09/21		--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1.4	--	--
12/29/21		--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<0.4	--	--
04/06/22		--	--	--	--	<19	--	--	--	--	<0.3	<0.2	<0.4	<0.4	<0.2	--
06/22/22		--	--	--	--	29	--	--	--	--	<0.3	<0.2	<0.4	<0.4	<0.2	--
10/06/22		--	--	--	--	29	--	--	--	--	<0.3	<0.2	<0.4	<0.4	<0.2	--
Standard Laboratory Reporting Limits:						50	250		500		0.5	0.5	0.5	1.5	--	0.10 - 5.0
MTCA Method A Cleanup Levels:						800/1,000	500		500		5.0	1,000	700	1,000	20	1.0
Current Method:[3]						NWTPH-Gx	NWTPH-Dx + Extended				USEPA 8021					USEPA 8310

Explanations:

BTEX = Benzene, toluene, ethylbenzene, and total xylenes
(D) = Duplicate
DTW = Depth to Water
(ft) = Feet
GWE = Groundwater Elevation
LFP = Low Flow Purge
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
ND = Not Detected
NP = No Purge
SPHT = Separate-Phase Hydrocarbon Thickness
TOC = Top of Casing
PAHs = Polynuclear Aromatic Hydrocarbons
TPH = Total Petroleum Hydrocarbons
TPH-DRO = TPH as Diesel-Range Organics
TPH-GRO = TPH as Gasoline-Range Organics
TPH-HRO = TPH as Heavy Oil-Range Organics
USEPA = United States Environmental Protection Agency
µg/L = Micrograms per liter
-- = Not Measured/Not Analyzed

Notes:

1 TOC elevations referenced in feet relative to an arbitrary datum.
2 When SPH is present, GWE has been corrected using the following formula: GWE = [(TOC - DTW) + (SPHT x 0.80)].
3 Laboratory analytical methods for historical data may not be consistent with list of current analytical methods. When necessary, consult original laboratory reports to verify methods used.
Analytical results in bold font indicate concentrations exceed MTCA Method A cleanup levels.
Consult original laboratory analysis reports for analytical methods prior to 2009.
Silica-gel analysis suspended June 2013- February 2014.

Appendix B

Previous Figures

Historical Pipeline Figure



LEGEND

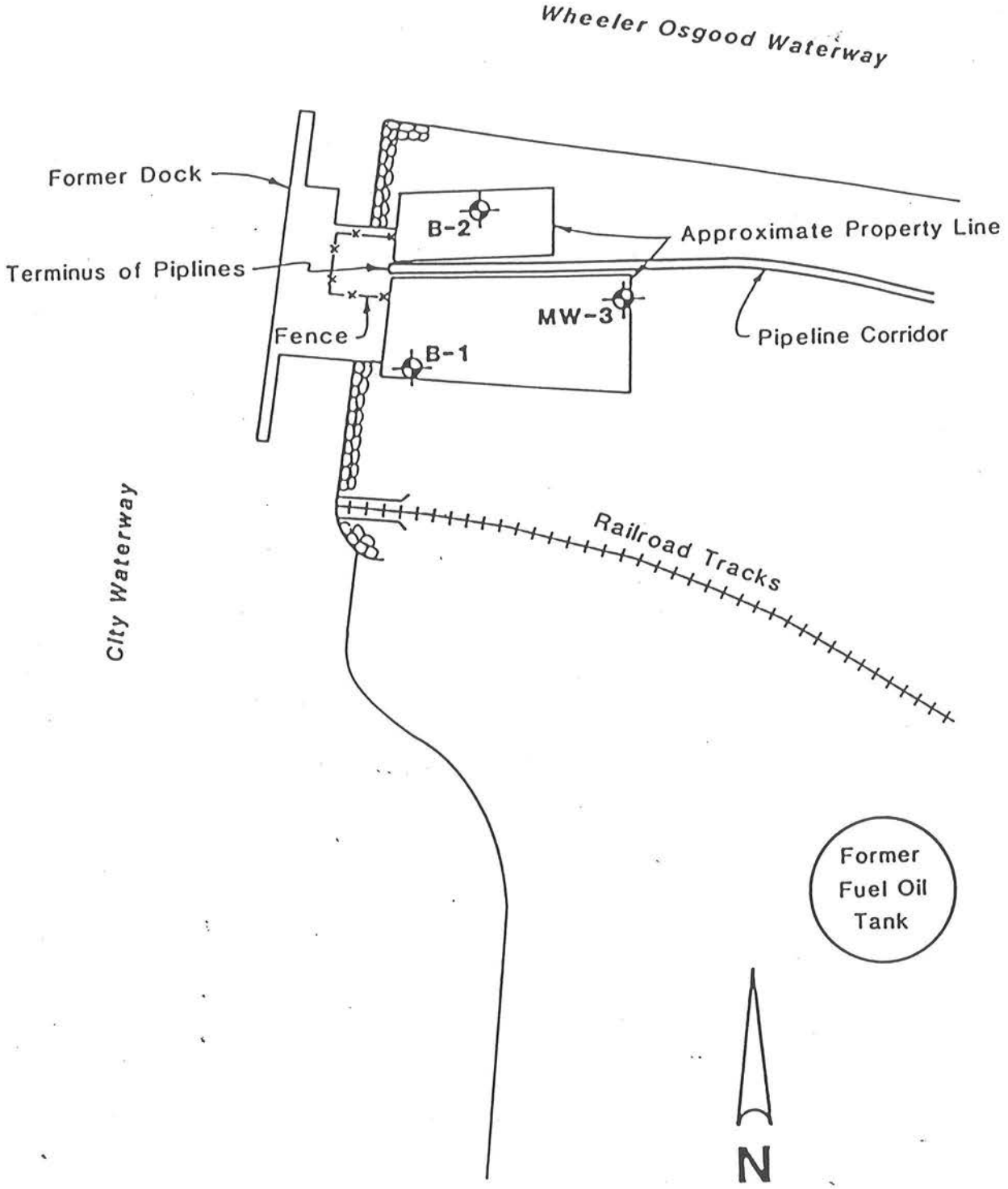
- SB-41 ● Completed Pipeline Soil Boring Location
- ● Proposed Pipeline Soil Boring Location
- Property Boundary
- Former Pipeline Shown in 1921 Plan; Disposition Unknown
- Former Pipeline Shown in 1988 Plan; Removed
- Former Pipeline Shown in 1988 Plan; Left in Place

SAIC®

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

FIGURE 1
Extended Site Map

DATE: 9/16/2013 | DRAWING: 1001348_2010 Site Figures.dwg

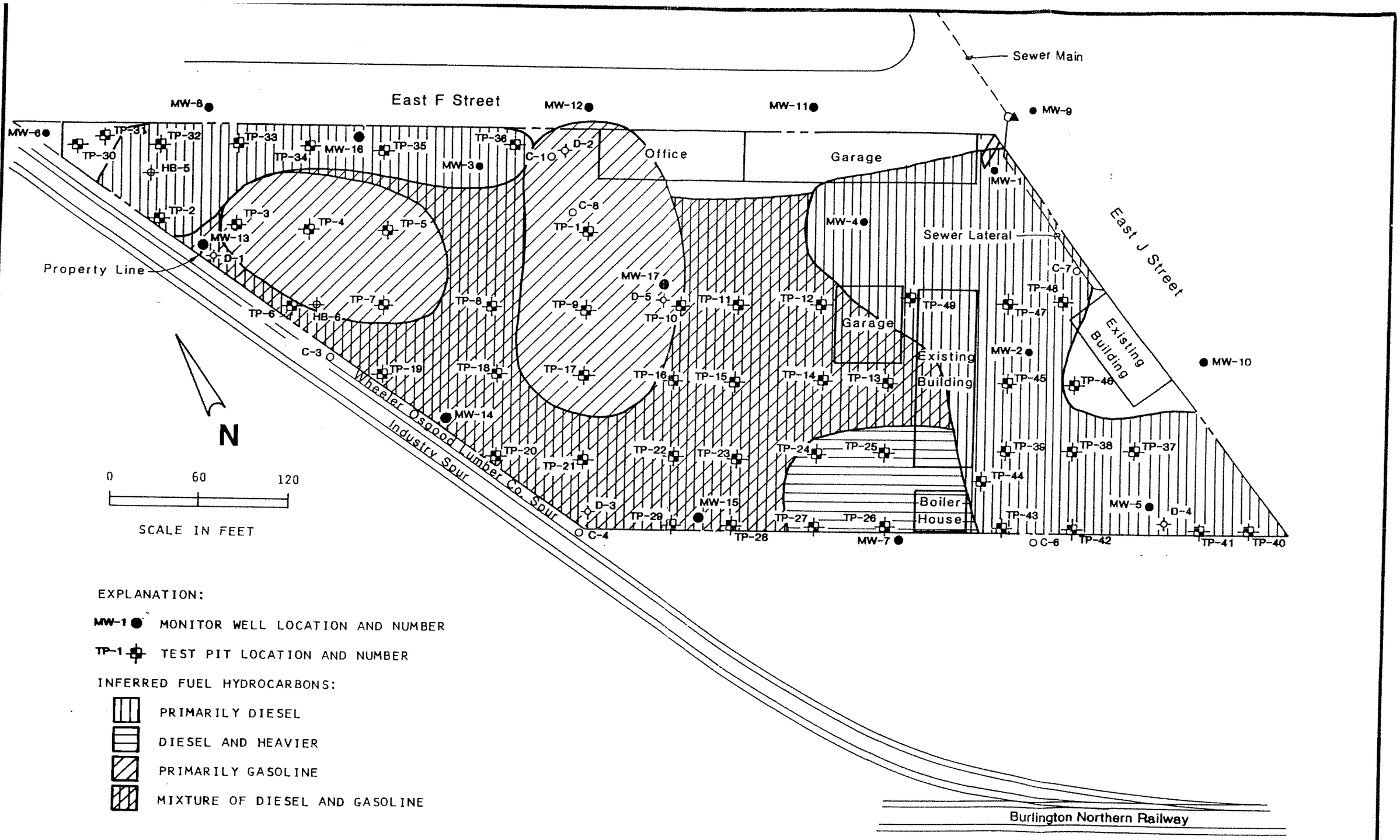


GeoEngineers

SITE PLAN: PIPELINE CORRIDOR AND TERMINUS

FIGURE 4 FROM GEOENGINEERS, 1990A

1995 Soil Distribution Map



EXPLANATION:

MW-1 ● MONITOR WELL LOCATION AND NUMBER

TP-1 ⊕ TEST PIT LOCATION AND NUMBER

INFERRED FUEL HYDROCARBONS:

- PRIMARILY DIESEL
- DIESEL AND HEAVIER
- PRIMARILY GASOLINE
- MIXTURE OF DIESEL AND GASOLINE

REFERENCE: UNTITLED DRAWING PROVIDED BY CHEVRON.

Geo Engineers

DISTRIBUTION OF FUEL HYDORCARBONS IN THE FILL UNIT

FIGURE 10

0372-46-4 REV.KKT 12.22.89 (A)

MH-2	06/29/95		
AC	<0.15	F	<0.10
AN	<0.15	FL	0.44
B(A)A	2.2	PH	<0.15
B(A)P	<0.010	PY	0.98
B(G)P	0.020	D-R	13,000
B(K)F	0.28	HO-R	8,100
CH	<0.010		

SEDIMENT SAMPLE FROM STORM DRAIN MANHOLE FLOW LINE

ROS-1	05/25/95		
AC	<0.15	F	<0.010
AN	<0.15	FL	<0.15
B(A)A	<0.010	PH	<0.15
B(A)P	<0.010	PY	<0.020
B(G)P	<0.010	D-R	530
B(K)F	<0.010	HO-R	750
CH	<0.010		

SOIL SAMPLE FROM AREA OF POTENTIAL RUNOFF

MH-1	05/25/95		
AC	0.33	F	0.56
AN	0.22	FL	1.4
B(A)A	0.73	PH	1.8
B(A)P	0.34	PY	<0.020
B(G)P	0.13	D-R	1,100
B(K)F	0.096	HO-R	520
CH	0.029		

SEDIMENT SAMPLE FROM SANITARY SEWER FLOW LINE

TP-G1	5/25/95		
AC	<0.15	F	0.066
AN	0.19	FL	0.82
B(A)A	0.18	PH	<0.15
B(A)P	0.038	PY	0.12
B(G)P	<0.010	D-R	1,500
B(K)F	<0.010	HO-R	520
CH	<0.010		

SOIL SAMPLE FROM TEST PIT NEXT TO SANITARY SEWER MANHOLE

EAST "F" STREET

7' HIGH CHAIN LINK FENCE

NO RUNOFF

CONCRETE CONTAINMENT WALL WITH BARBED WIRE FENCE ON TOP

APPROXIMATE LOCATION OF FORMER OIL/WATER SEPARATOR

APPROXIMATE LOCATION OF 6-INCH STORM DRAIN LINE, NOW PLUGGED

BURLINGTON NORTHERN RAILROAD R/W (N P RR)

EXISTING POND

WAREHOUSE

37' GATE

EAST STREET

7' HIGH CHAIN LINK FENCE

AREA DOES NOT DRAIN TO WATERWAY

CONCRETE WALL WITH BARBED WIRE FENCE ON TOP

RAILROAD YARD

MAIN - LINE TRACK

EXPLANATION:

- ⊕ APPROXIMATE LOCATION OF SOIL SAMPLE
- ⊙ APPROXIMATE LOCATION OF MANHOLE
- APPROXIMATE LOCATION OF TEST PIT
- APPROXIMATE DIRECTION OF SURFACE WATER FLOW

AC ACENAPTHENE
AN ANTHRACENE
B(A)A BENZO (A) ANTHRACENE
B(A)P BENZO (A) PYRENE
B(G)P BENZO (GHI) PERYLENE
B(K)F BENZO (K) FLUROANTHENE
CH CHRYSENE
F FLUORANTHENE
FL FLUORENE
PH PHENANTHRENE
PY PYRENE
D-R DIESEL-RANGE HYDROCARBONS
HO-R HEAVY OIL-RANGE HYDROCARBONS

N

0 80 160
SCALE IN FEET

Reference:
Base drawing by BUSH, ROED & HITCHINGS, INC., job number 95006.00 dated Februrary 1995.

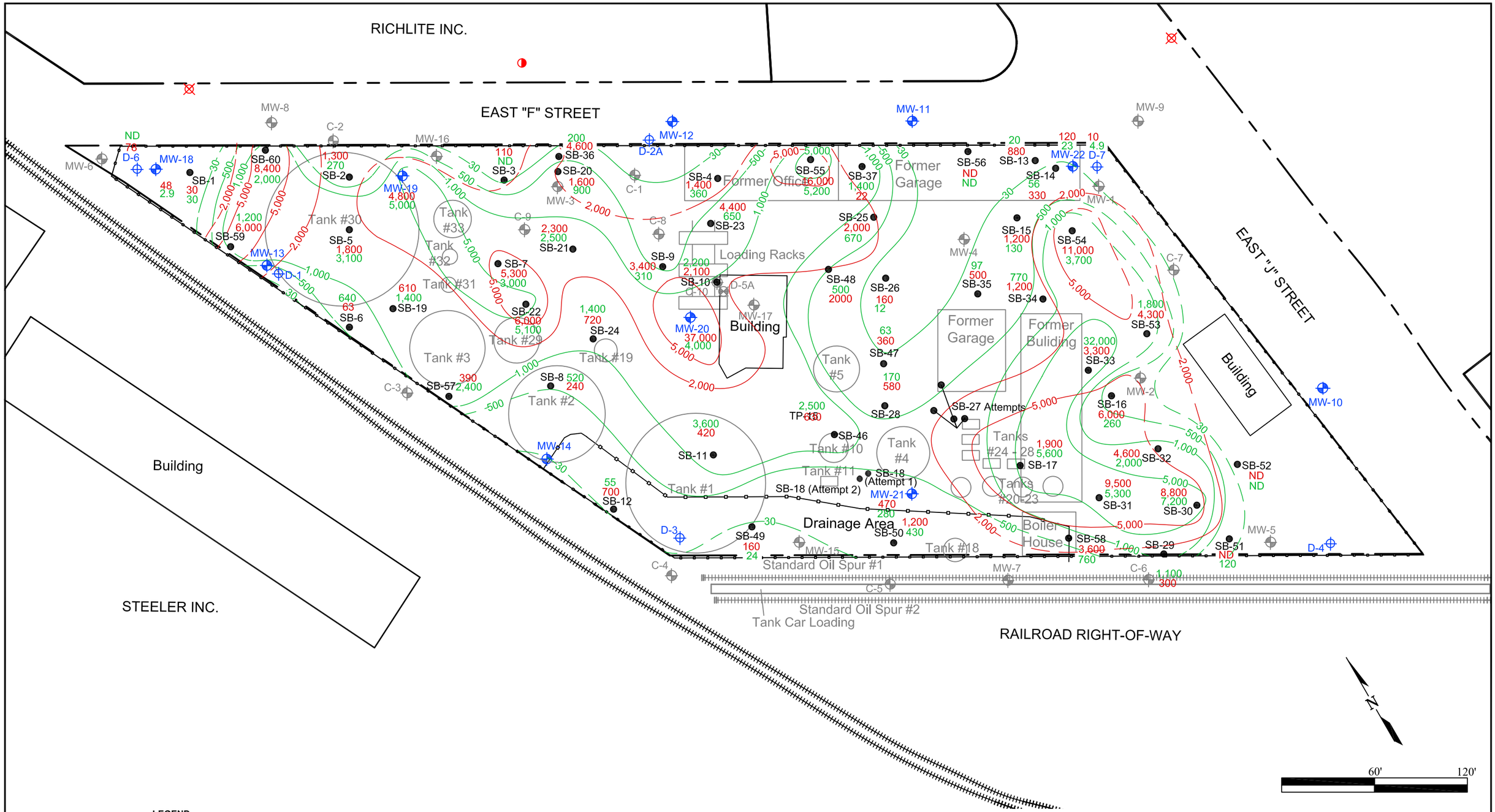
GeoEngineers

SURFACE CONTOURS AND DRAINAGE FEATURES

FIGURE 3 FROM GEOENGINEERS, 1995

0372117T14:062995
0372117.DWG
WEH:SPS

2010 Soil Locations and Distribution Maps



LEGEND

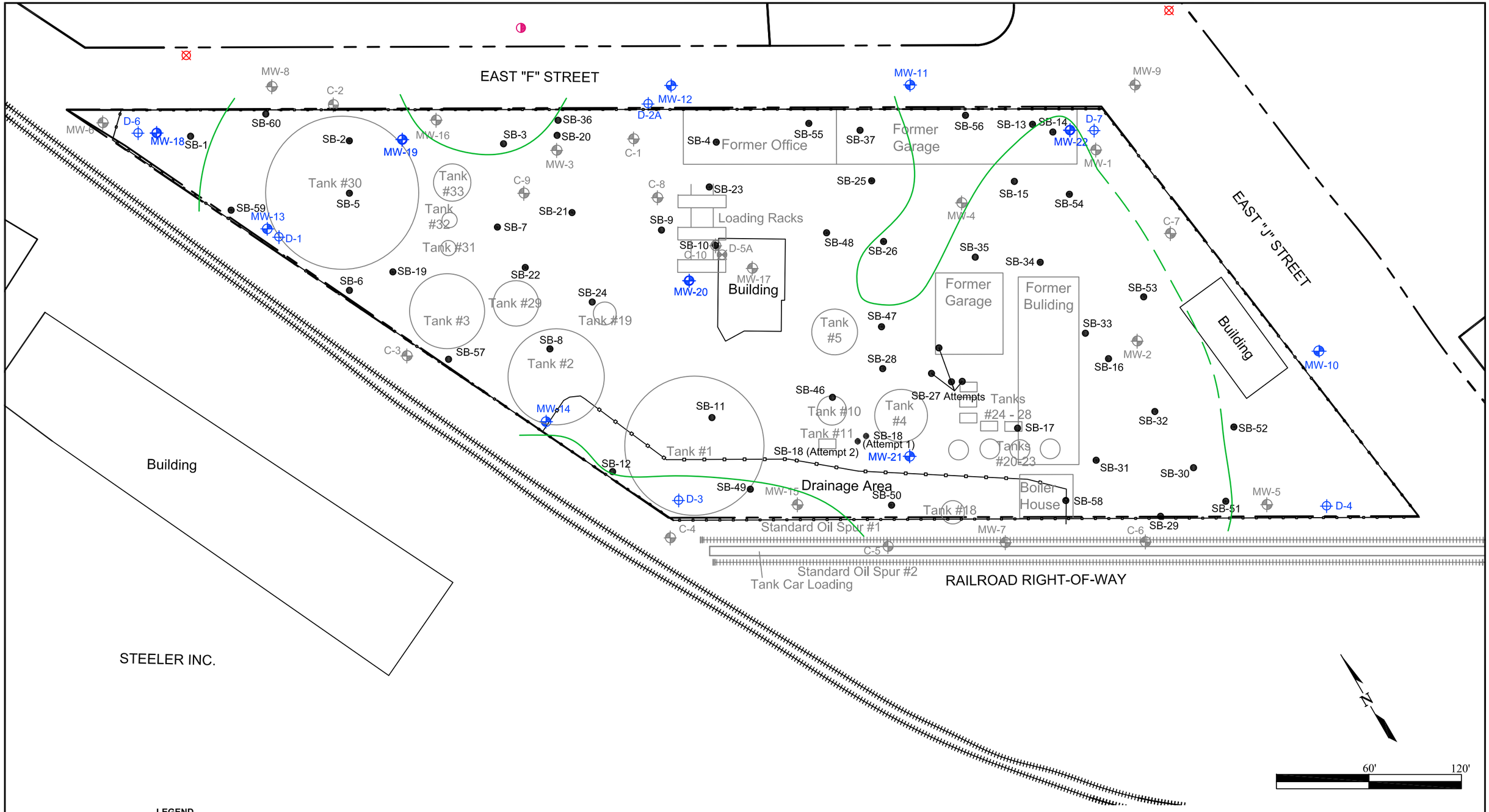
- MW-10 — Monitoring Well Location (Shallow Aquifer)
- D-1 — Monitoring Well Location (Deep Aquifer)
- MW-6 — Abandoned/Destroyed Monitoring Well Location
- SB-1 — SAIC Soil Boring Locations
- Approximate Location of Monitoring Well on Rainier Plywood (Richlite) Property
- Propsed Groundwater Monitoring Well Locations
- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Property Boundary
- ND — Not Detected
- mg/kg — milligrams per kilogram
- 5,600 — Concentration of TPH-G in Soil (mg/kg)
- 1,200 — Concentration of TPH-D in Soil (mg/kg)
- 30 — Approximate TPH-G Concentration Contours (mg/kg), MTCA Method A CUL = 30 mg/kg
- 2,000 — Approximate TPH-D Concentration Contours (mg/kg), MTCA Method A CUL = 2,000 mkg/kg

SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 6
Extent of Impacted Soil and Proposed Monitoring Well Locations

DATE: 8/5/2013 | DRAWING: 1001348 2010 Site Figures.dwg



LEGEND

- MW-10 — Monitoring Well Location (Shallow Aquifer)
- D-1 — Monitoring Well Location (Deep Aquifer)
- MW-6 — Abandoned/Destroyed Monitoring Well Location
- SB-1 — Soil Boring Locations
- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Property Boundary
- Proposed Groundwater Monitoring Well Location
- Approximate Location of Monitoring Well Located on Rainer Plywood (Richlite)
- Extent of Impacted Soil Exceeding MTCA Method A Cleanup Levels, Dashed Where Inferred

SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 7
Extent of Impacted Soil Exceeding MTCA Method A in Soil

DATE: 8/5/2013 | DRAWING: 1001348 MTCA A and B.dwg

EAST "F" STREET

EAST "J" STREET

STEELER INC.

Building

Former Office

Former Garage

Former Garage

Former Building

Building

Loading Racks

Building

Drainage Area

Boiler House

Tank #30

Tank #33

Tank #32

Tank #31

Tank #3

Tank #29

Tank #19

Tank #2

Tank #1

Tank #5

Tank #10

Tank #4

Tank #11

Tanks #24 - 28

Tanks #20-23

Tank #18

Standard Oil Spur #1

Standard Oil Spur #2

Tank Car Loading

RAILROAD RIGHT-OF-WAY

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-9 MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22

D-1 D-2A D-3 D-4 D-5A D-6 D-7

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8 C-9 C-10

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12 SB-13 SB-14 SB-15 SB-16 SB-17 SB-18 (Attempt 1) SB-18 (Attempt 2) SB-19 SB-20 SB-21 SB-22 SB-23 SB-24 SB-25 SB-26 SB-27 Attempts SB-28 SB-29 SB-30 SB-31 SB-32 SB-33 SB-34 SB-35 SB-36 SB-37 SB-47 SB-48 SB-49 SB-50 SB-51 SB-52 SB-53 SB-54 SB-55 SB-56 SB-57 SB-58 SB-59 SB-60

5,363.3 (11')
10,750 (7')
10,420 (4')
7,470 (5')
5,100 (5.5')
5,360 (6')
4,930 (6')
8,940 (4')
4,810 (7.5')
4,490 (6')
11,670 (4')
8,530 (6')
60,300 (2')
18,700 (4')
4,230 (6')
15,600 (4')
7,000 (2.5')
8,000 (4')
37,800 (2')
40,600 (2')
4,300 (6')
8,900 (2')
17,000 (2')
16,200 (2')
6,600 (2')

60' 120'

N

LEGEND

MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
SB-1	Soil Boring Locations
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
	Proposed Groundwater Monitoring Well Location
	Approximate Location of Monitoring Well Located on Rainer Plywood (Richlite)
8,900 (6')	Total Petroleum Hydrocarbons in Milligrams per Kilogram (mg/kg) and Sample Depth in Feet Below Ground Surface
	Extent of Impacted Soil Exceeding MTCA Method B Cleanup Levels

Note: Method B Cleanup Level for Total TPH is 4,100 mg/kg

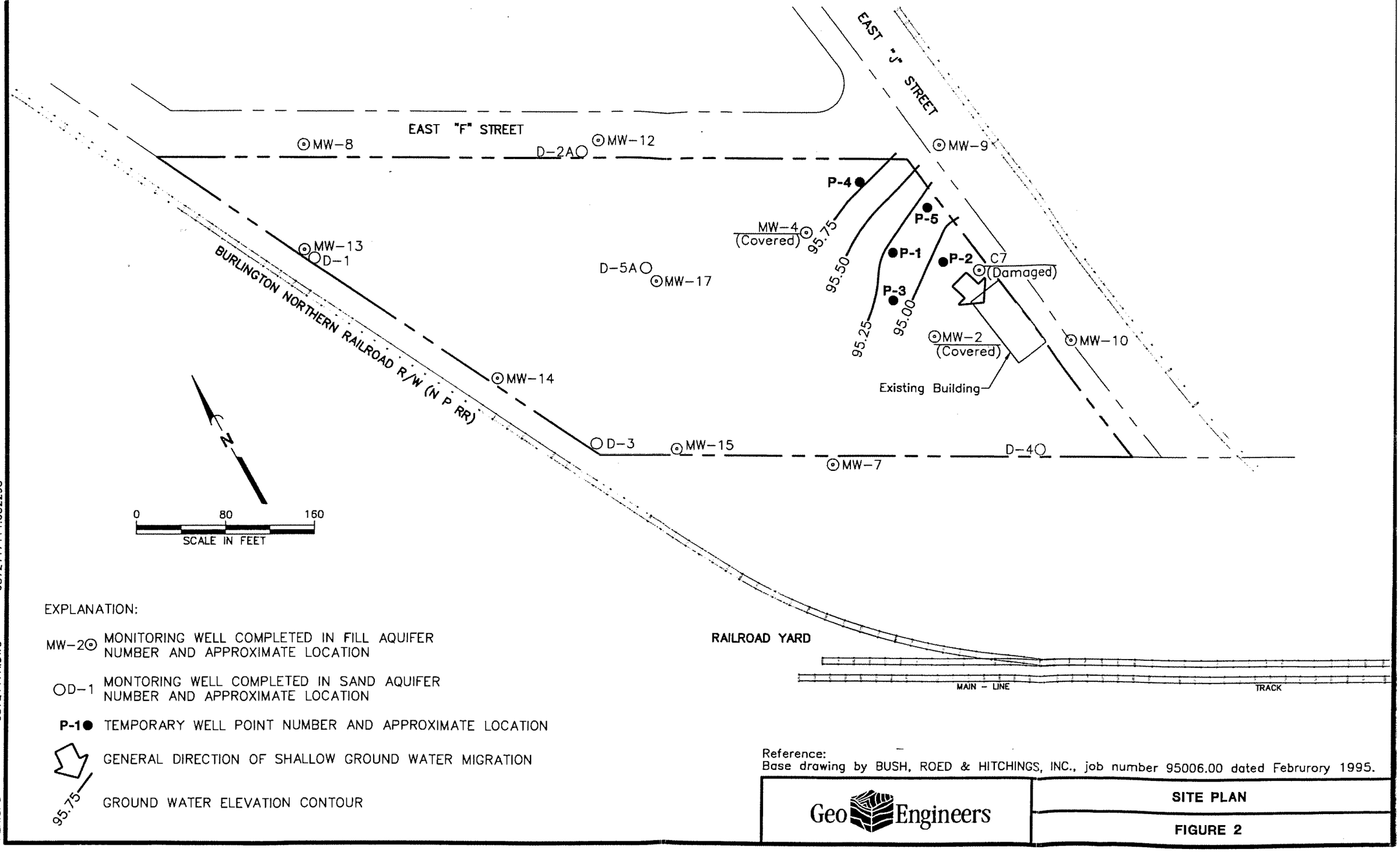
SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 8
Extent of Impacted Soil Exceeding MTCA Method B in Soil

DATE: 8/5/2013 | DRAWING: 1001348 MTCA A and B.dwg

Historical Monitoring Well Locations



EXPLANATION:

MW-2⊙ MONITORING WELL COMPLETED IN FILL AQUIFER NUMBER AND APPROXIMATE LOCATION

○D-1 MONTORING WELL COMPLETED IN SAND AQUIFER NUMBER AND APPROXIMATE LOCATION

P-1● TEMPORARY WELL POINT NUMBER AND APPROXIMATE LOCATION

GENERAL DIRECTION OF SHALLOW GROUND WATER MIGRATION

95.75 GROUND WATER ELEVATION CONTOUR

Reference:
Base drawing by BUSH, ROED & HITCHINGS, INC., job number 95006.00 dated Februrory 1995.

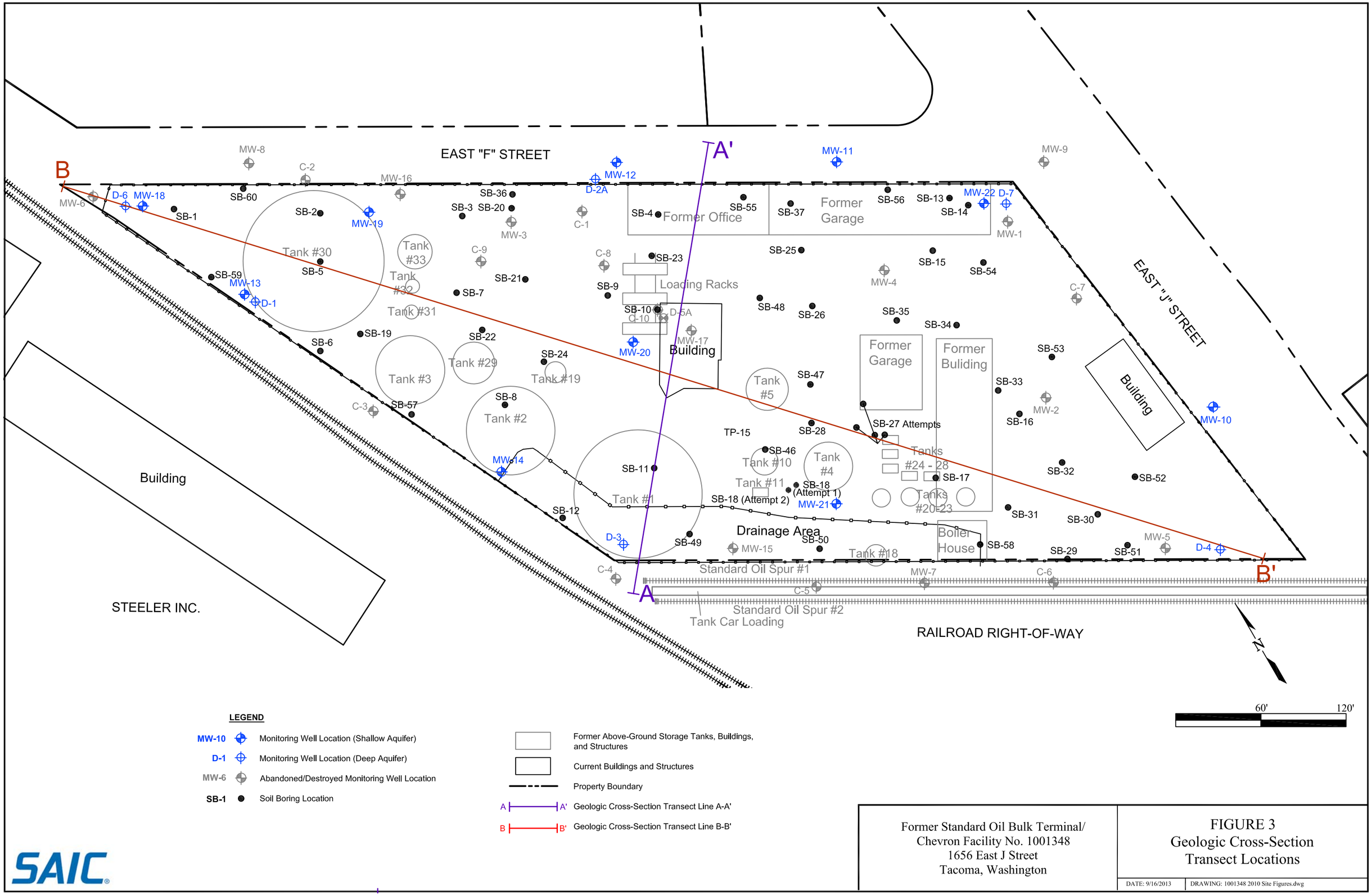
Geo Engineers

SITE PLAN

FIGURE 2

0372117T14:082295
0372117A.DWG
WEH:SPS

Historical Cross Sections



LEGEND

- MW-10 — Monitoring Well Location (Shallow Aquifer)
- D-1 — Monitoring Well Location (Deep Aquifer)
- MW-6 — Abandoned/Destroyed Monitoring Well Location
- SB-1 — Soil Boring Location
- Former Above-Ground Storage Tanks, Buildings, and Structures
- Current Buildings and Structures
- Property Boundary
- A — A' Geologic Cross-Section Transect Line A-A'
- B — B' Geologic Cross-Section Transect Line B-B'

SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

FIGURE 3
Geologic Cross-Section Transect Locations

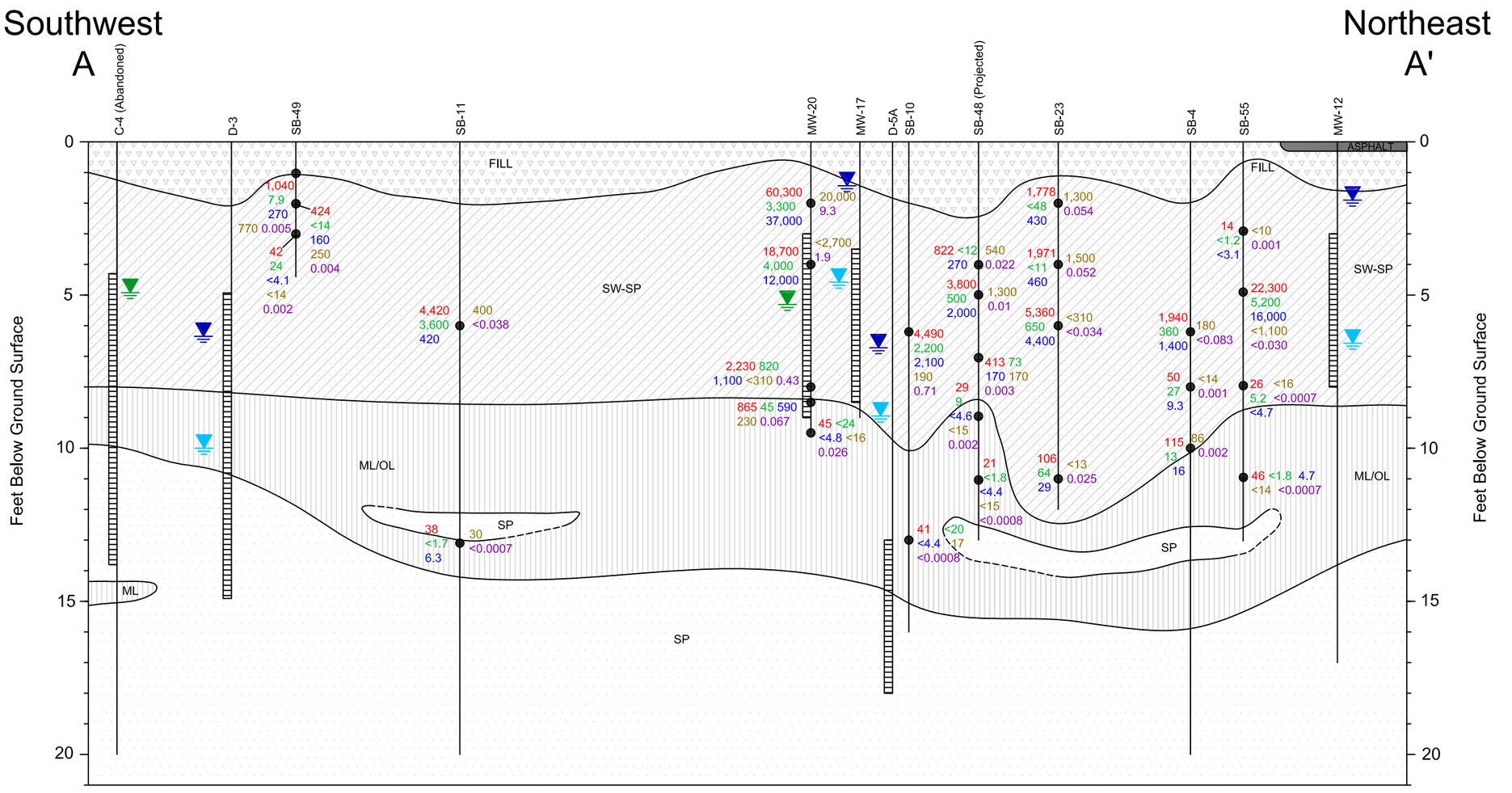
DATE: 9/16/2013 | DRAWING: 1001348 2010 Site Figures.dwg

LEGEND:

- Boring
- Screened interval
- Highest recorded groundwater elevation
- Lowest recorded groundwater elevation
- Only recorded groundwater elevation
- Soil analytical sample location
- 500 — Total petroleum hydrocarbon concentration in mg/kg
- 28 — Gasoline-range hydrocarbon concentration in mg/kg
- 10 — Diesel-range hydrocarbon concentration in mg/kg
- 200 — Heavy oil-range hydrocarbon concentration in mg/kg
- 0.001 — Benzene concentration in mg/kg
- Contact line between soil types (dashed where inferred)

SOIL/ROCK CLASSIFICATION LEGEND:

- Asphalt
- Fill: Dark brown SAND with gravel and some silt and bricks.
- SW-SP: Brown, loose, fine to coarse SAND with shell fragments and 5% SILT.
- ML/OL: Brown to Gray, soft to stiff SILT with organics/plant debis and medium plasticity.
- SP: Brown, loose to dense, fine to medium SAND with <5% SILT.



0 15 30 60

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 4'

SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

FIGURE 4
Geologic Cross Section A-A'

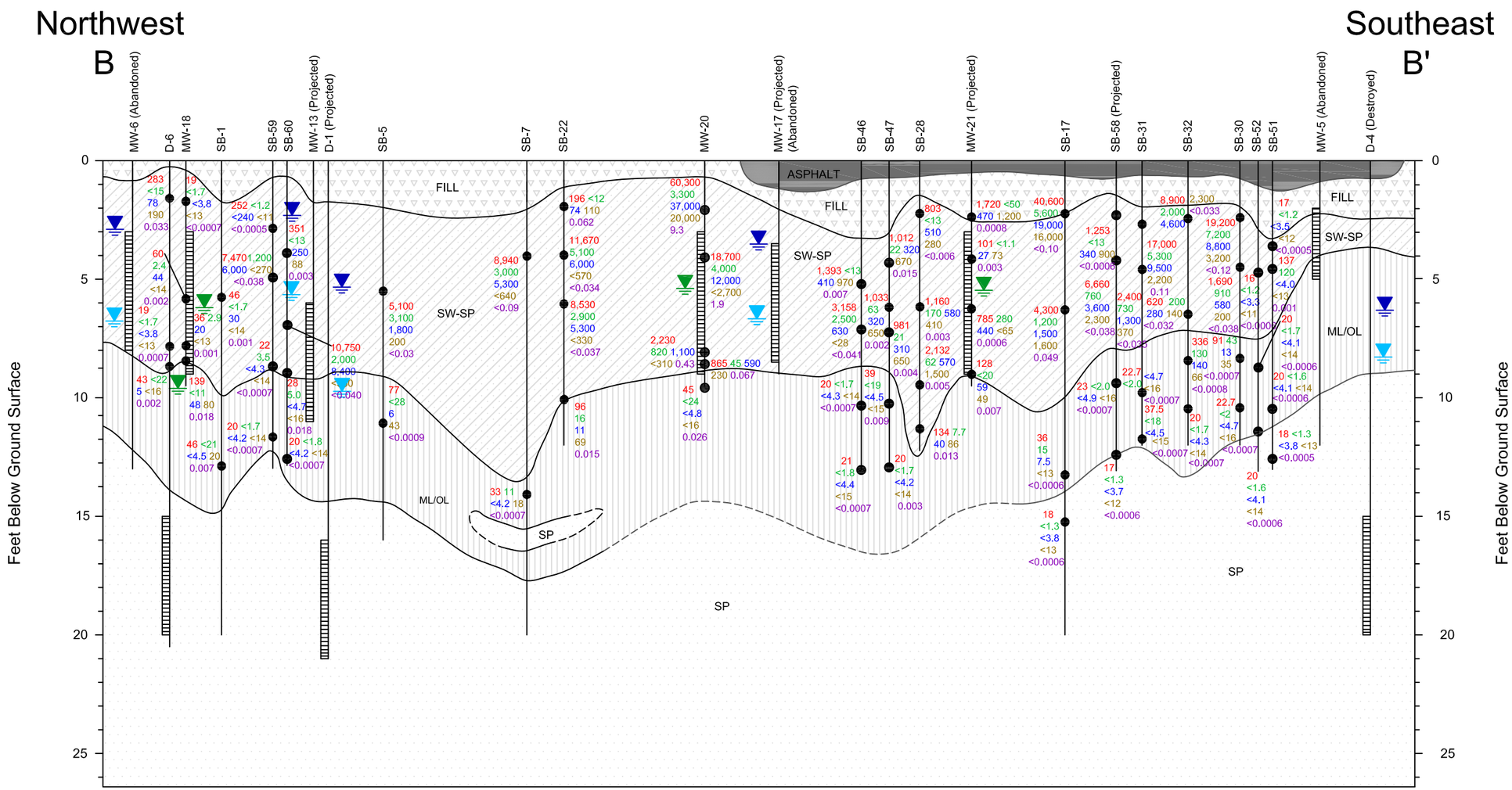
DATE: 09/16/2013 | DRAWING: 1001348 X-Sections.dwg

LEGEND:

- Boring
- Screened interval
- Highest recorded groundwater elevation
- Lowest recorded groundwater elevation
- Only recorded groundwater elevation
- Soil analytical sample location
- 500 — Total petroleum hydrocarbon concentration in mg/kg
- 28 — Gasoline-range hydrocarbon concentration in mg/kg
- 10 — Diesel-range hydrocarbon concentration in mg/kg
- 200 — Heavy oil-range hydrocarbon concentration in mg/kg
- 0.001 — Benzene concentration in mg/kg
- Contact line between soil types (dashed where inferred)

SOIL/ROCK CLASSIFICATION LEGEND:

- Asphalt
- Fill: Dark brown SAND with gravel and some silt and bricks.
- SW-SP: Brown, loose, fine to coarse SAND with shell fragments and 5% SILT.
- ML/OL: Brown to Gray, soft to stiff SILT with organics/plant debis and medium plasticity.
- SP: Brown, loose to dense, fine to medium SAND with <5% SILT.



0 20 40 80 160

HORIZONTAL SCALE: 1" = 80'
VERTICAL SCALE: 1" = 5'

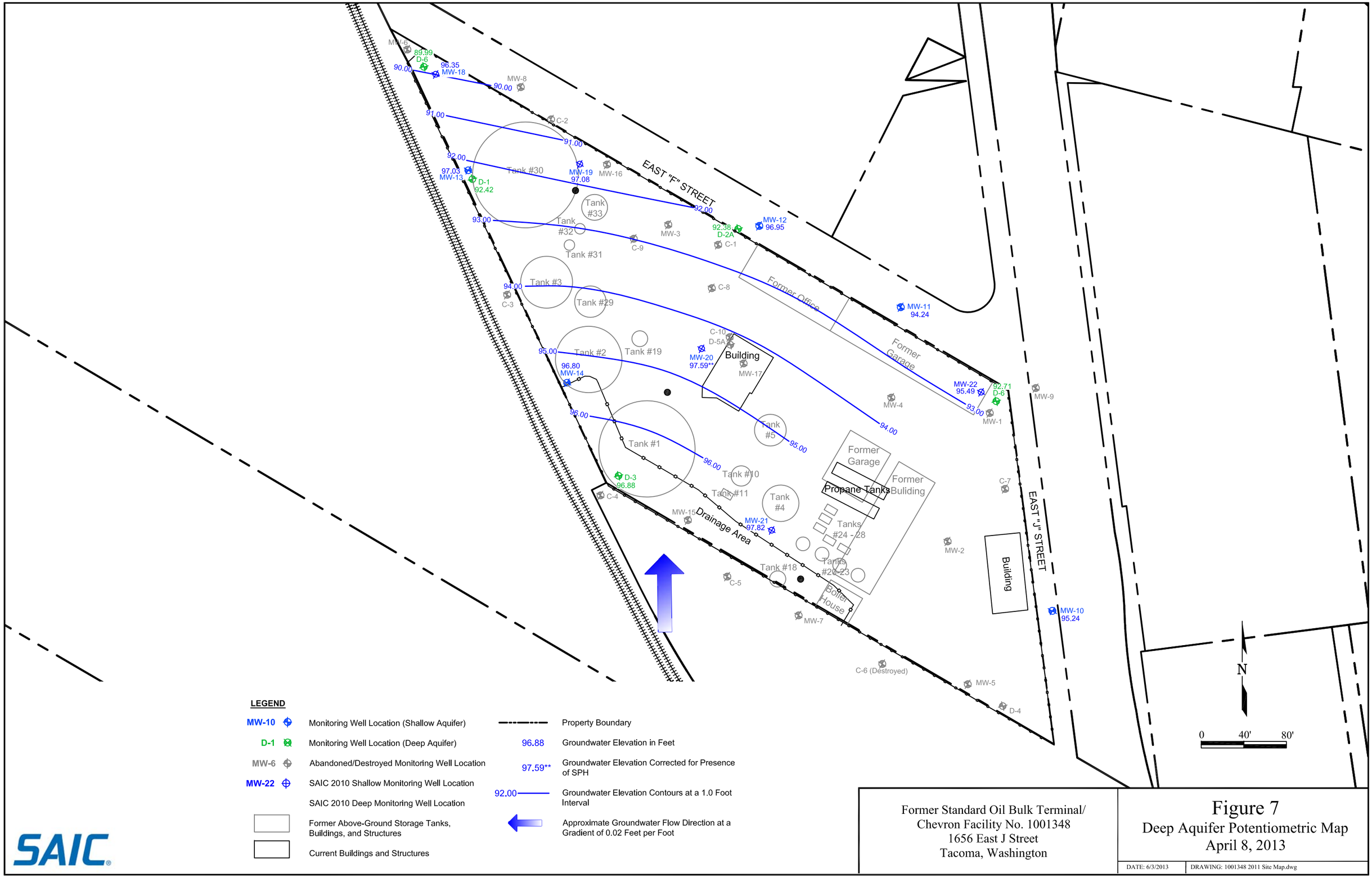
SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

FIGURE 5
Geologic Cross Section B-B'

DATE: 09/16/2013 | DRAWING: 1001348 X-Sections.dwg

2013 Groundwater Elevation and Flow Direction Maps



LEGEND

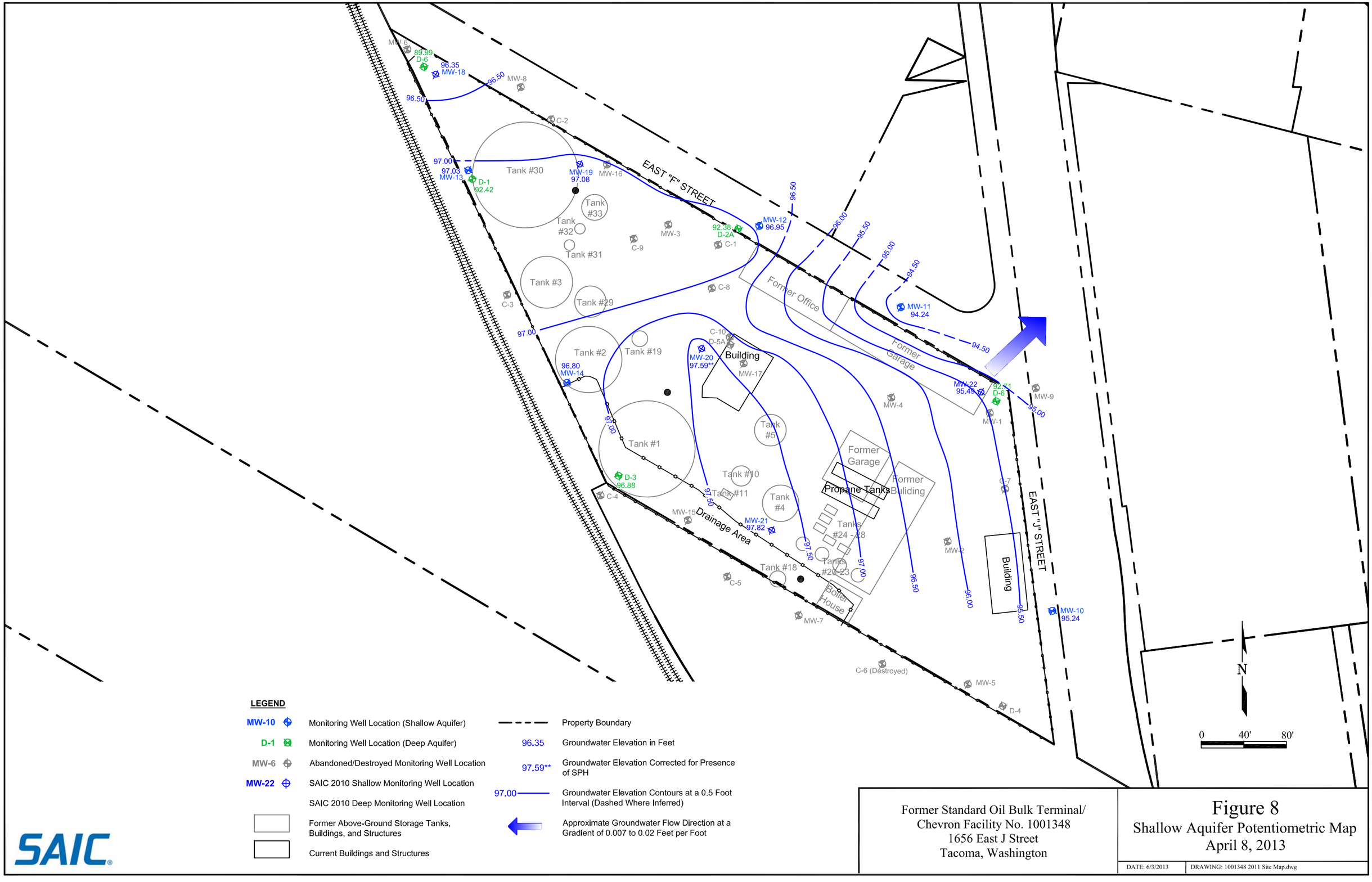
MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
96.88	Groundwater Elevation in Feet
97.59**	Groundwater Elevation Corrected for Presence of SPH
92.00	Groundwater Elevation Contours at a 1.0 Foot Interval
	Approximate Groundwater Flow Direction at a Gradient of 0.02 Feet per Foot

SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 7
Deep Aquifer Potentiometric Map
April 8, 2013

DATE: 6/3/2013 | DRAWING: 1001348 2011 Site Map.dwg



LEGEND

MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
96.35	Groundwater Elevation in Feet
97.59**	Groundwater Elevation Corrected for Presence of SPH
97.00	Groundwater Elevation Contours at a 0.5 Foot Interval (Dashed Where Inferred)
	Approximate Groundwater Flow Direction at a Gradient of 0.007 to 0.02 Feet per Foot

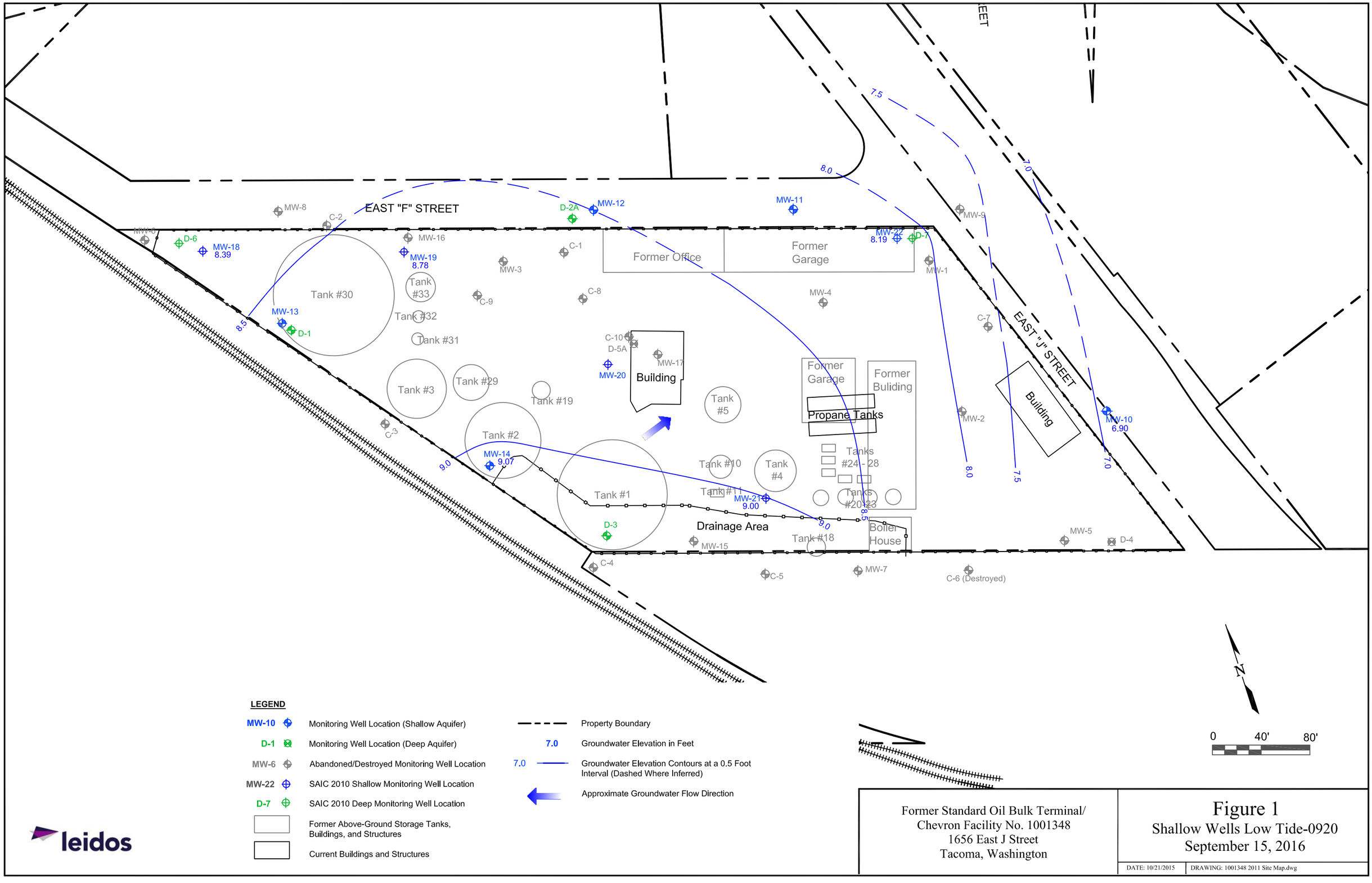
SAIC

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 8
Shallow Aquifer Potentiometric Map
April 8, 2013

DATE: 6/3/2013 | DRAWING: 1001348 2011 Site Map.dwg

2016 Leidos Tidal Study Figures and Graphs



LEGEND

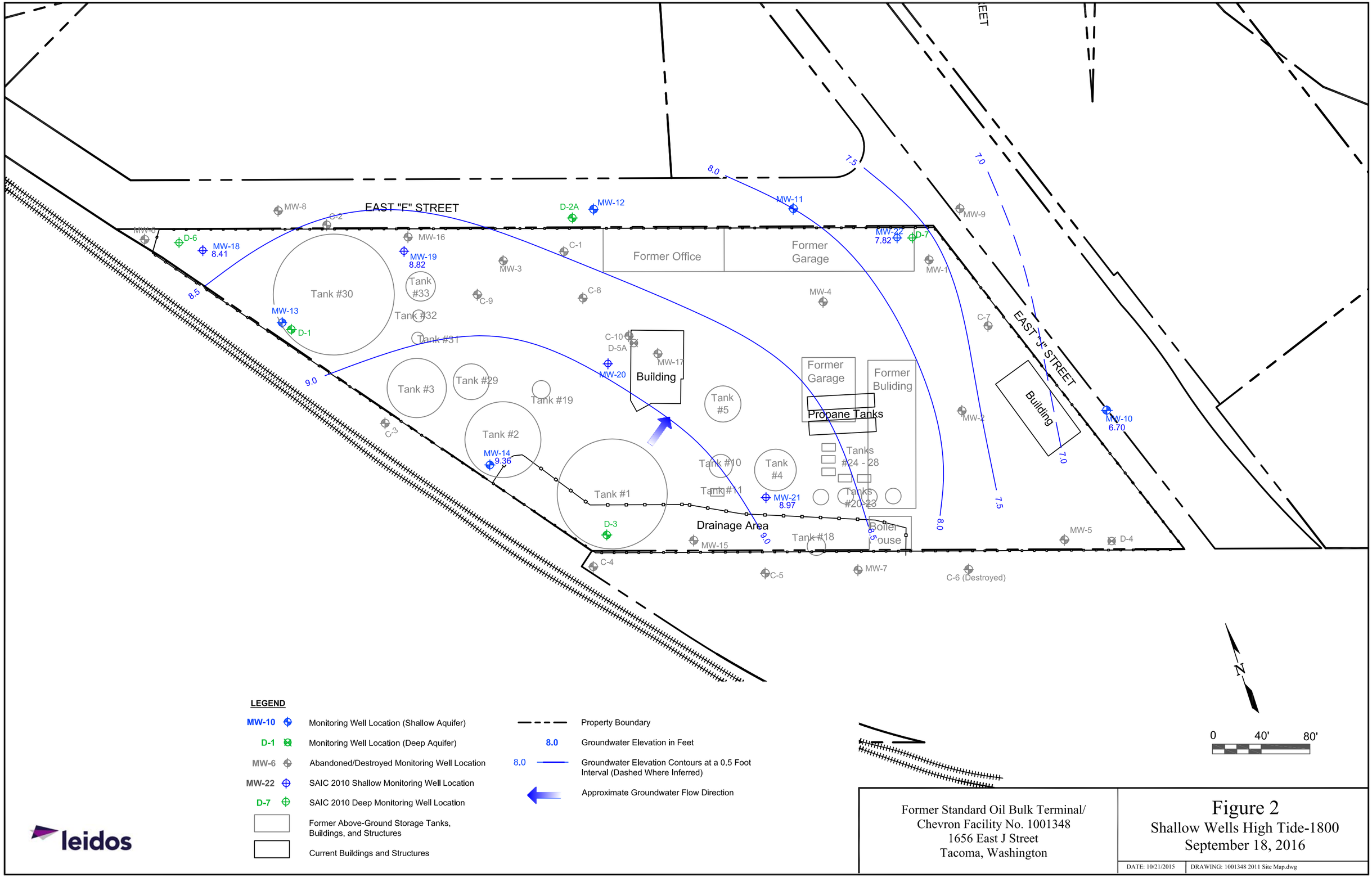
MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
D-7	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
7.0	Groundwater Elevation in Feet
7.0	Groundwater Elevation Contours at a 0.5 Foot Interval (Dashed Where Inferred)
	Approximate Groundwater Flow Direction

leidos

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 1
Shallow Wells Low Tide-0920
September 15, 2016

DATE: 10/21/2015 | DRAWING: 1001348 2011 Site Map.dwg



LEGEND

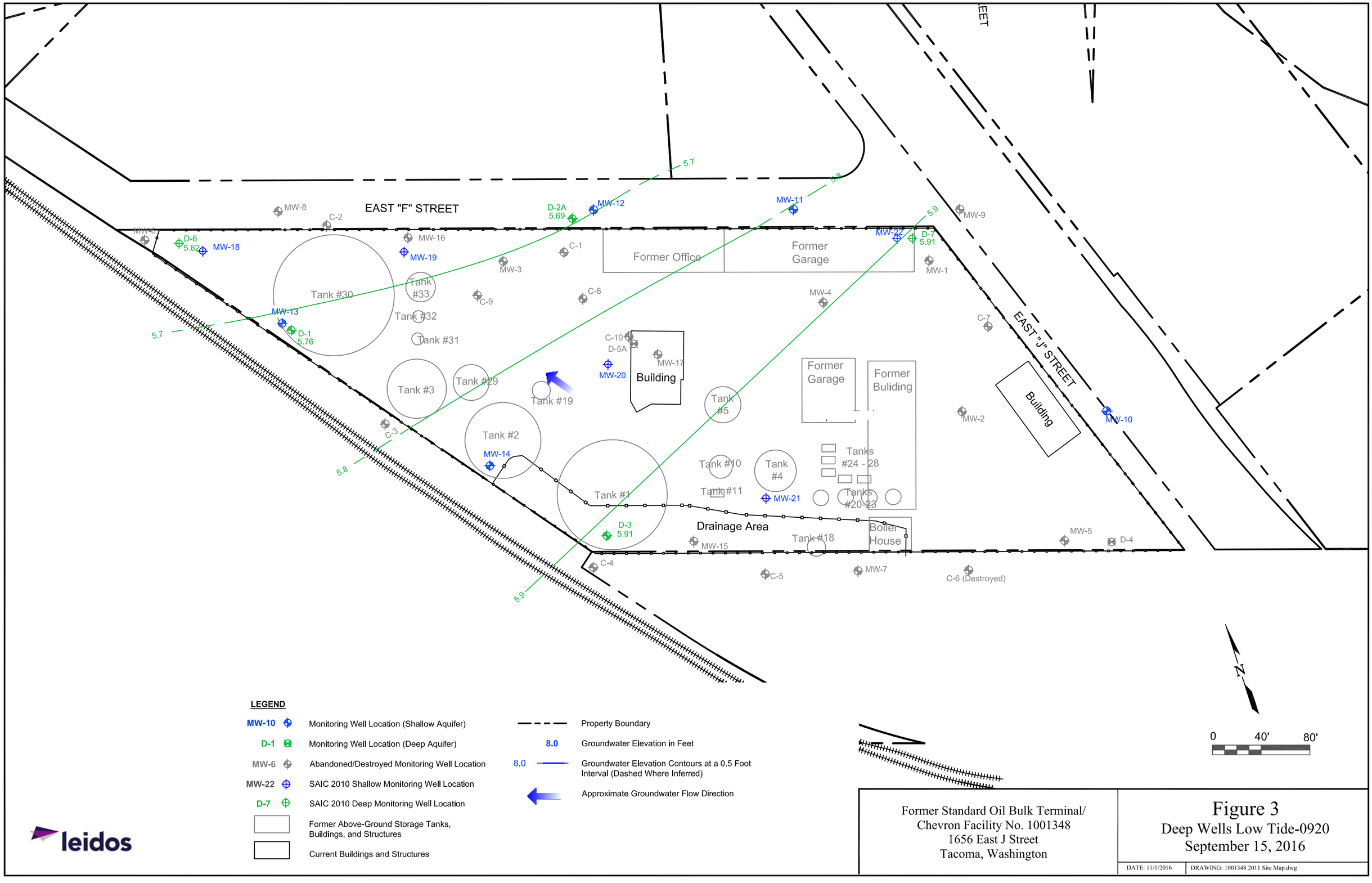
MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
D-7	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
8.0	Groundwater Elevation in Feet
8.0	Groundwater Elevation Contours at a 0.5 Foot Interval (Dashed Where Inferred)
	Approximate Groundwater Flow Direction

leidos

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 2
Shallow Wells High Tide-1800
September 18, 2016

DATE: 10/21/2015 | DRAWING: 1001348 2011 Site Map.dwg



LEGEND

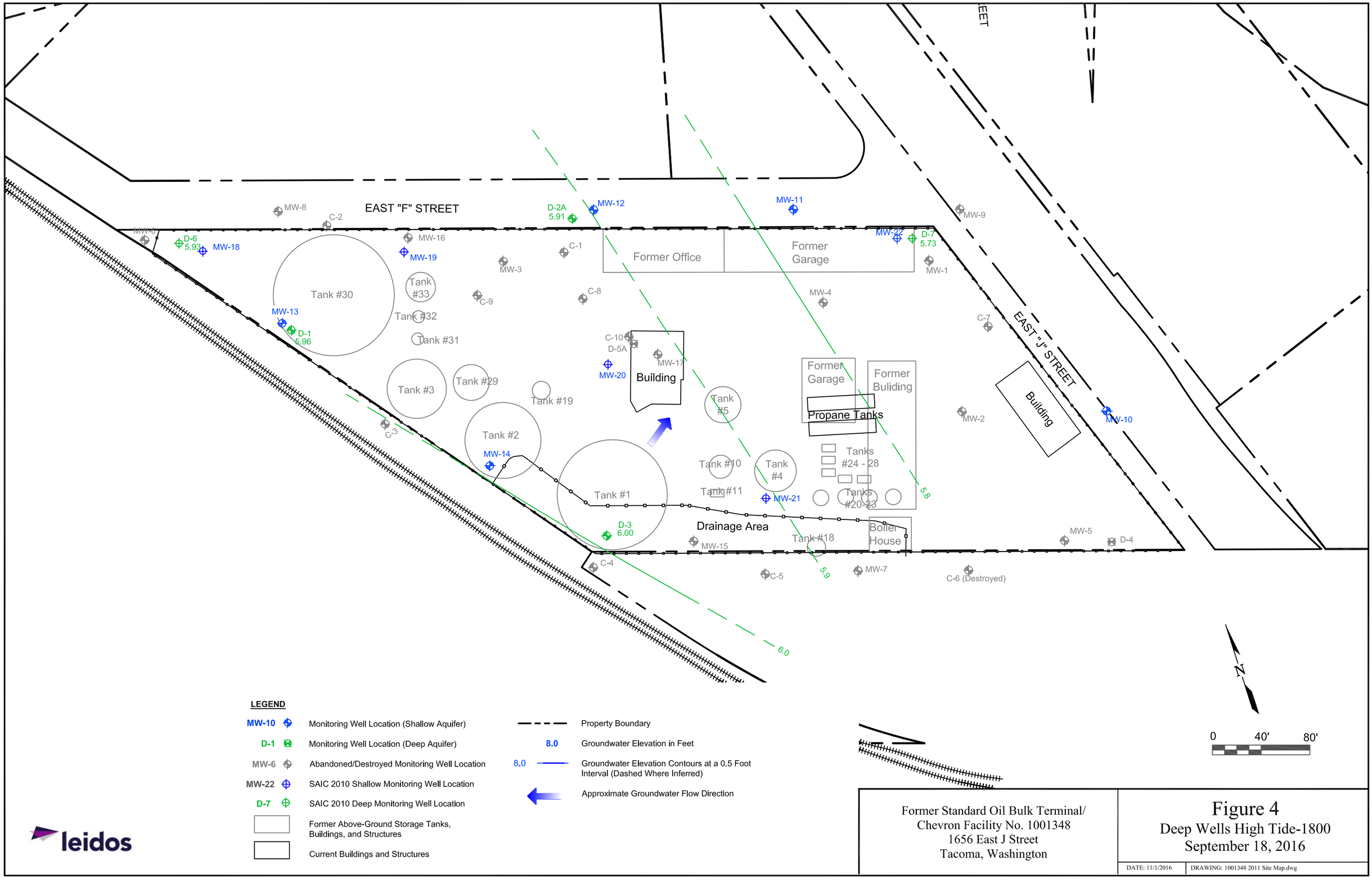
MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
D-7	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
8.0	Groundwater Elevation in Feet
8.0	Groundwater Elevation Contours at a 0.5 Foot Interval (Dashed Where Inferred)
	Approximate Groundwater Flow Direction

leidos

Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

Figure 3
Deep Wells Low Tide-0920
September 15, 2016

DATE: 11/1/2016 | DRAWING: 1001348 2011 Site Map.dwg



LEGEND

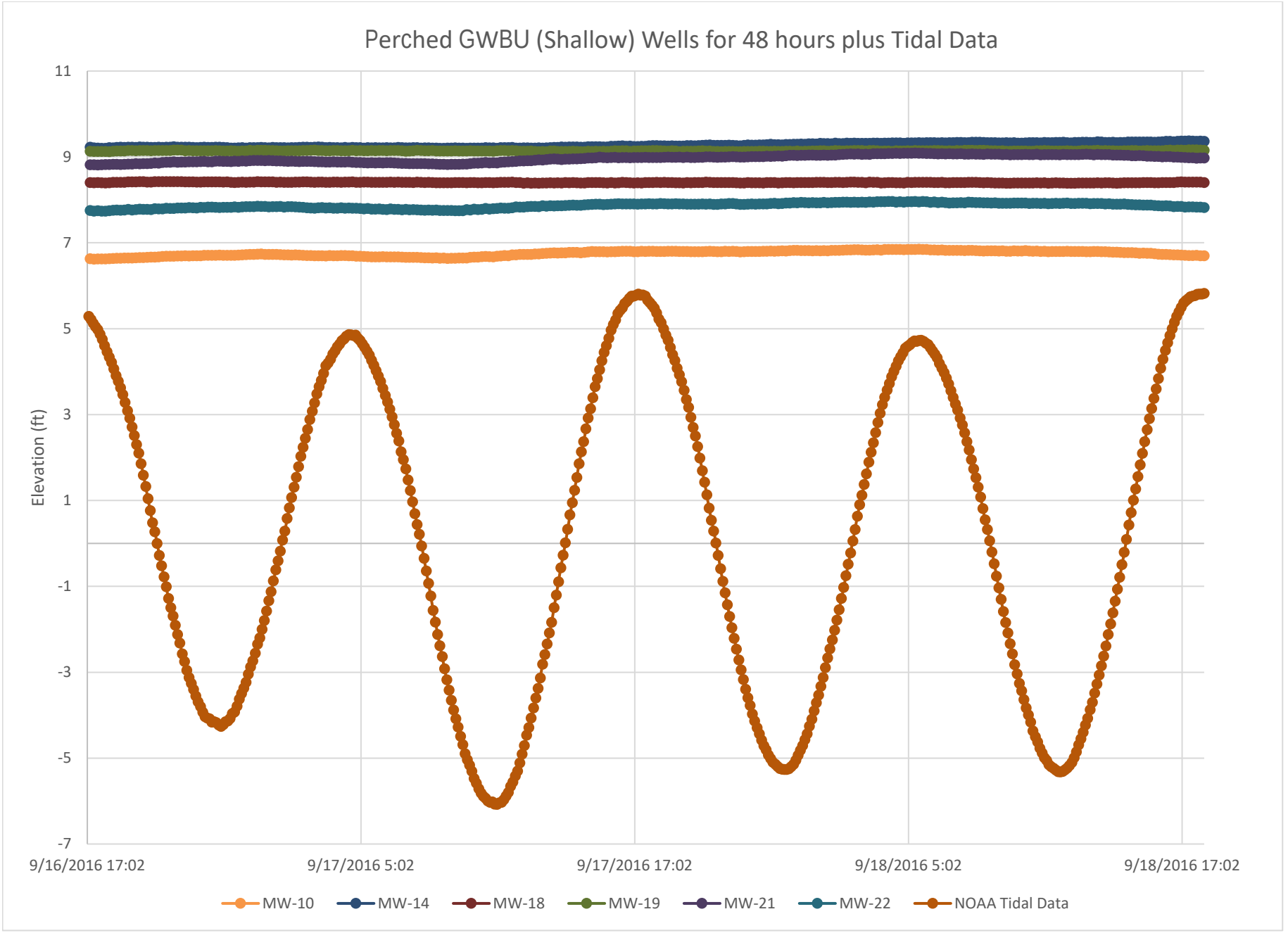
MW-10	Monitoring Well Location (Shallow Aquifer)
D-1	Monitoring Well Location (Deep Aquifer)
MW-6	Abandoned/Destroyed Monitoring Well Location
MW-22	SAIC 2010 Shallow Monitoring Well Location
D-7	SAIC 2010 Deep Monitoring Well Location
	Former Above-Ground Storage Tanks, Buildings, and Structures
	Current Buildings and Structures
	Property Boundary
8.0	Groundwater Elevation in Feet
8.0	Groundwater Elevation Contours at a 0.5 Foot Interval (Dashed Where Inferred)
	Approximate Groundwater Flow Direction

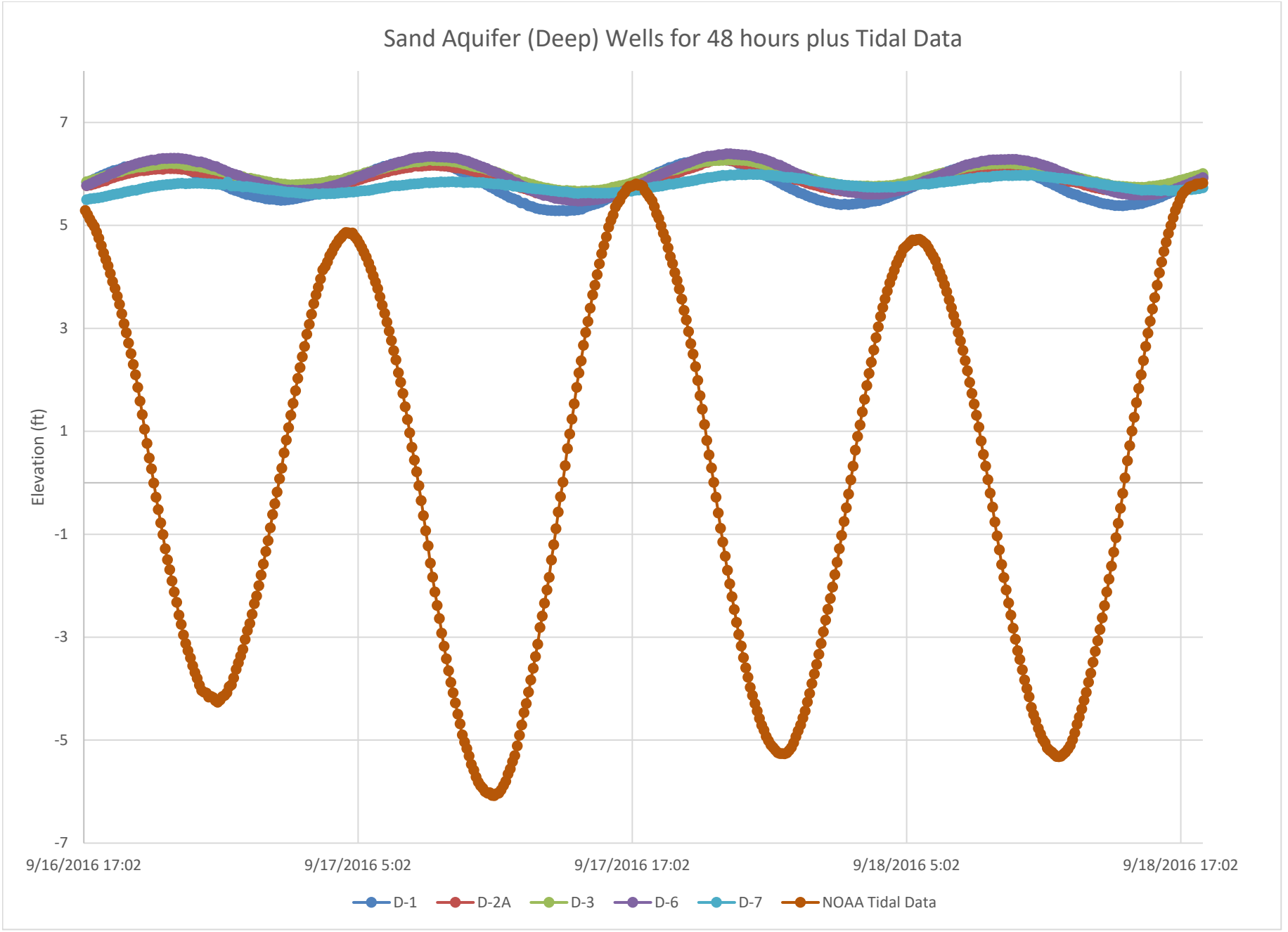
leidos

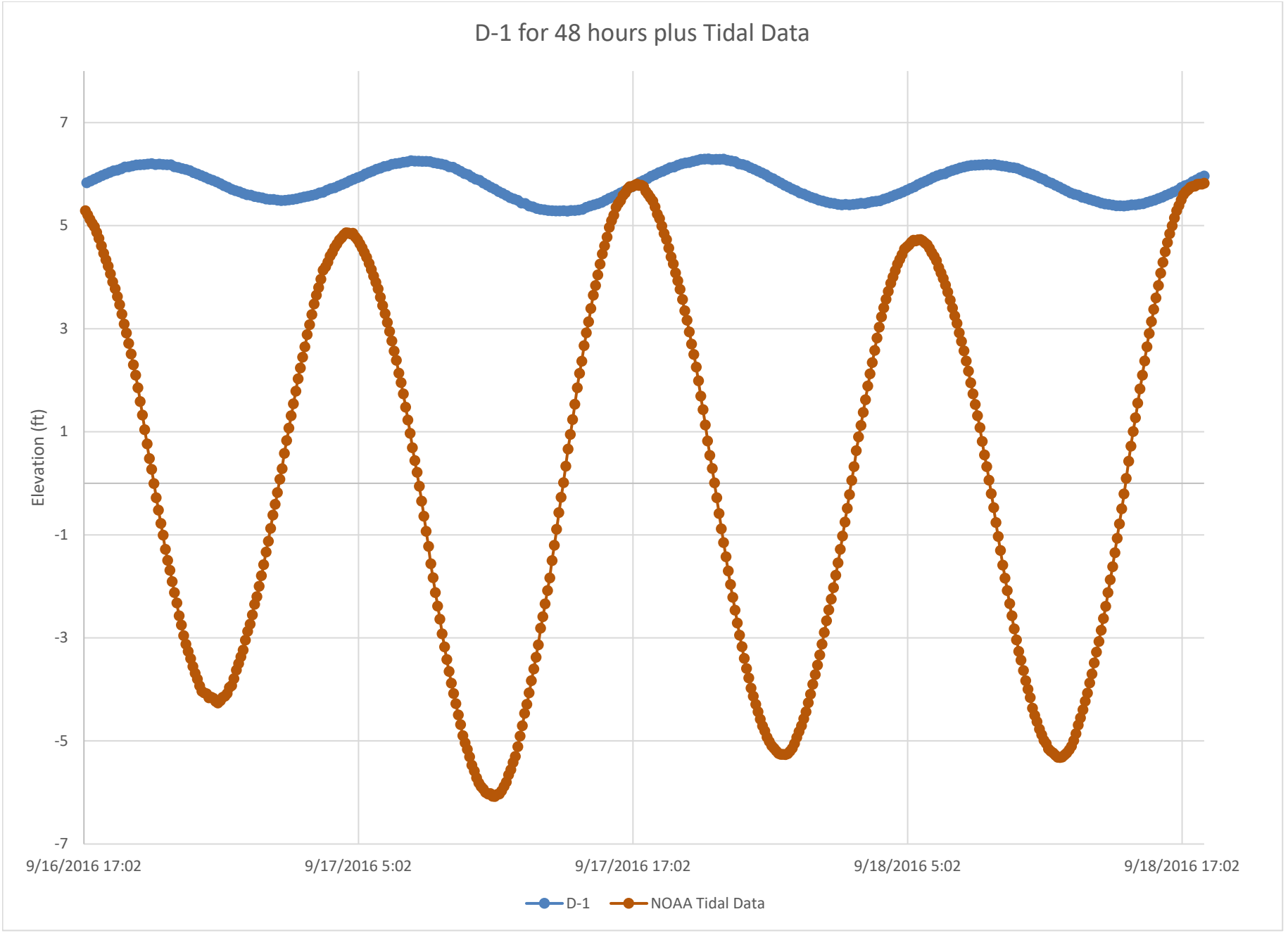
Former Standard Oil Bulk Terminal/
Chevron Facility No. 1001348
1656 East J Street
Tacoma, Washington

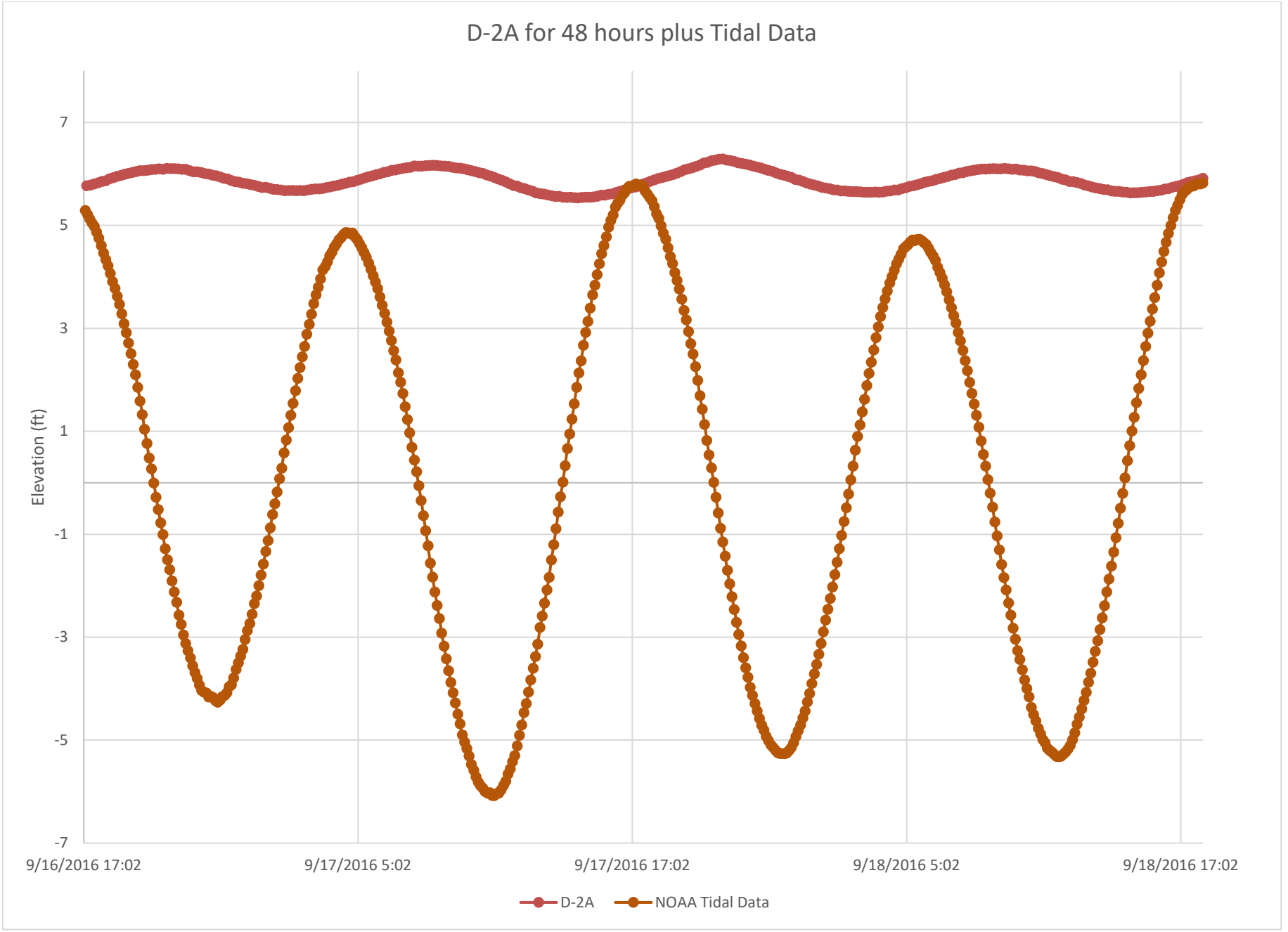
Figure 4
Deep Wells High Tide-1800
September 18, 2016

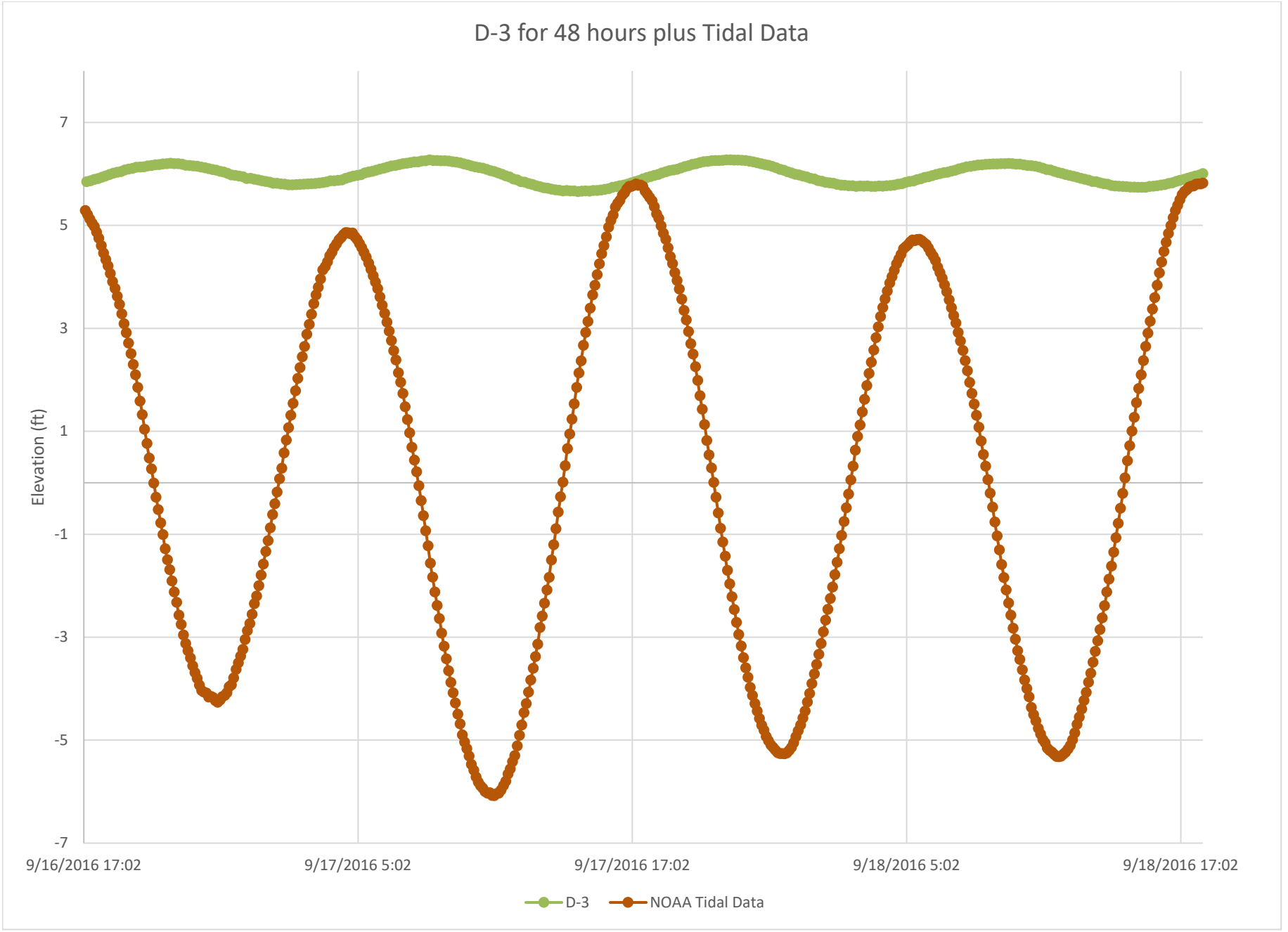
DATE: 11/1/2016 | DRAWING: 1001348 2011 Site Map.dwg

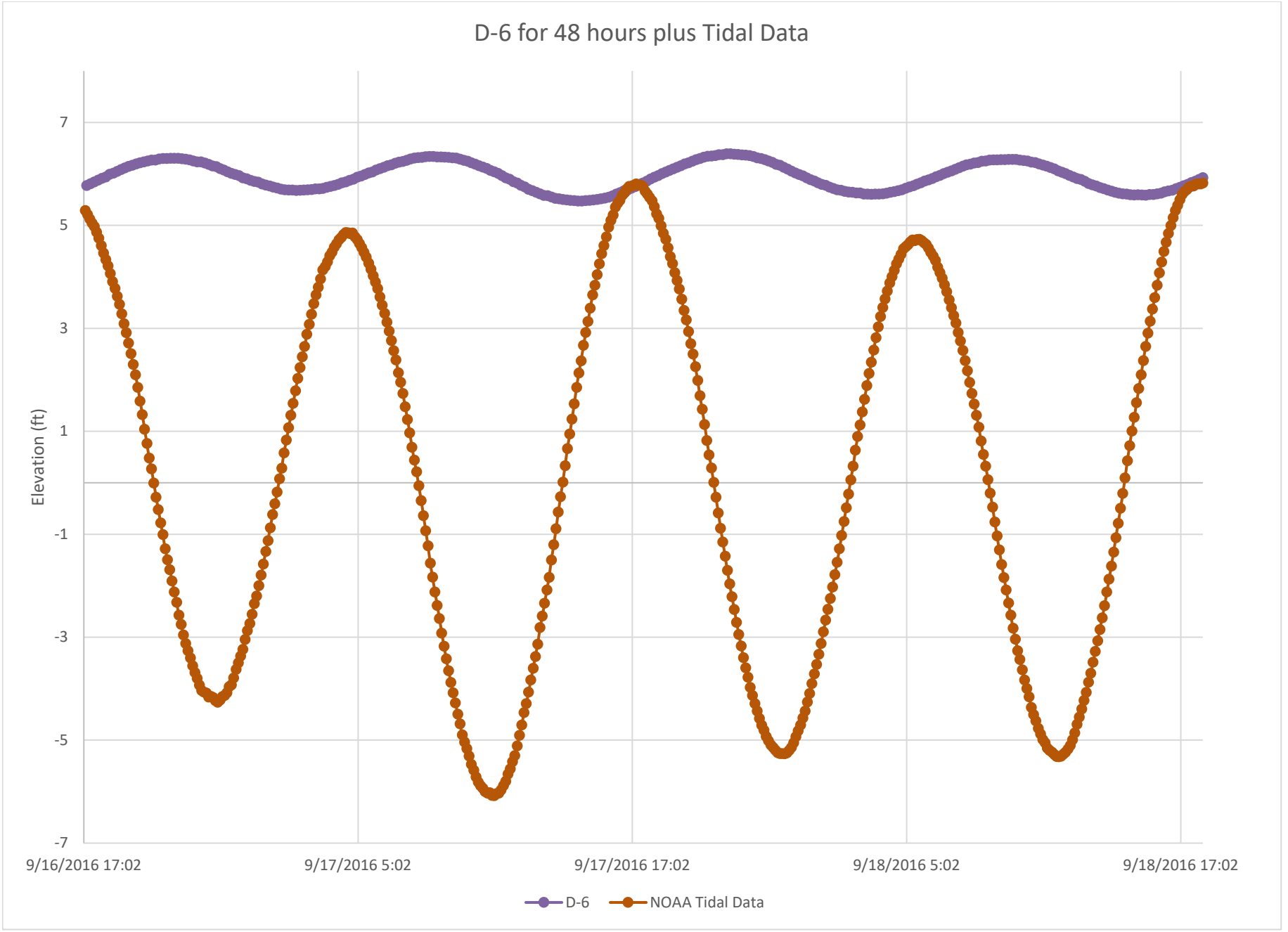

Perched GWBU (Shallow) Wells for 48 hours plus Tidal Data
Elevation (ft)
11
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-10
MW-14
MW-18
MW-19
MW-21
MW-22
NOAA Tidal Data

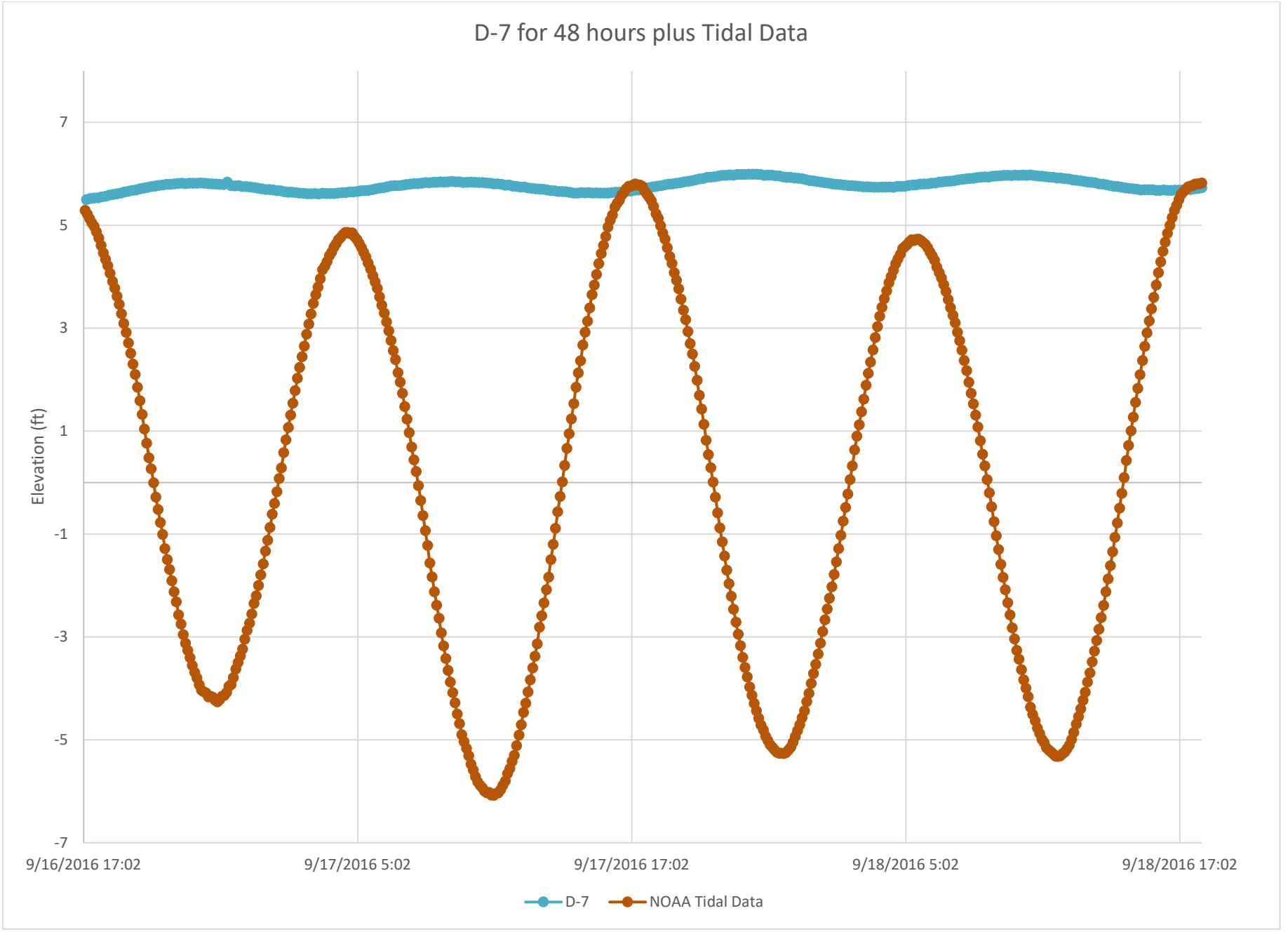

Sand Aquifer (Deep) Wells for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-1
D-2A
D-3
D-6
D-7
NOAA Tidal Data

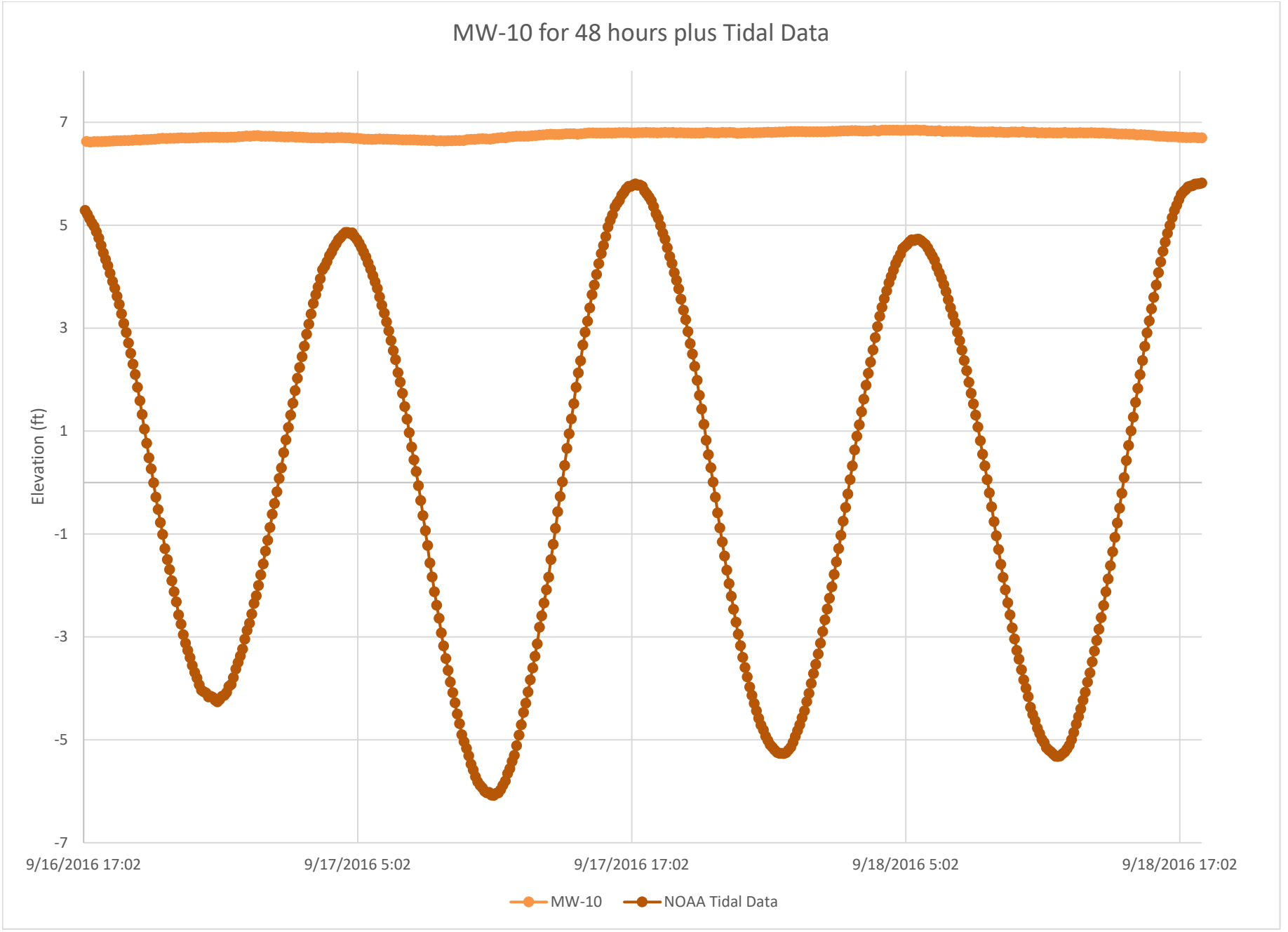

D-1 for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-1
NOAA Tidal Data

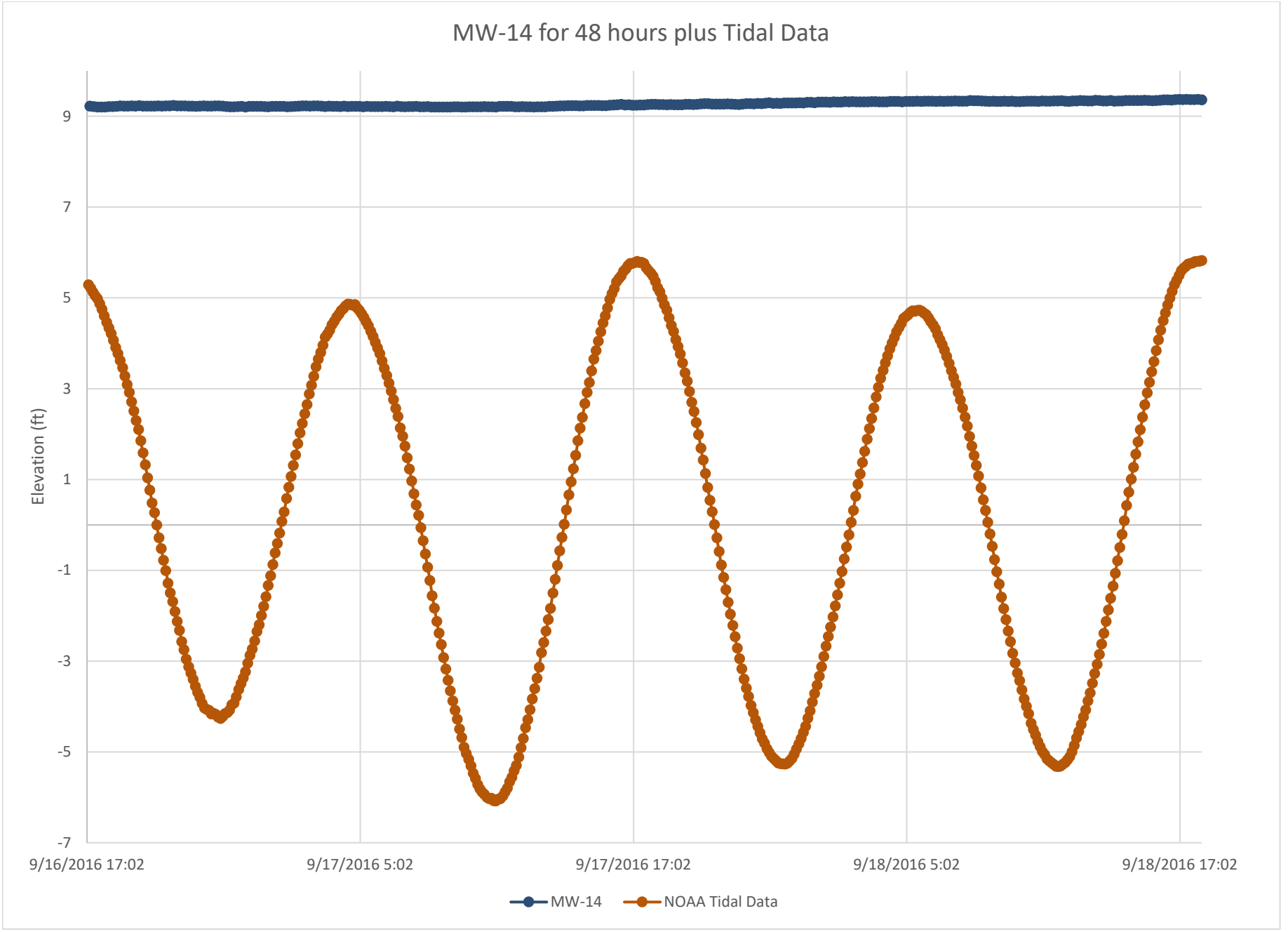

D-2A for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-2A
NOAA Tidal Data

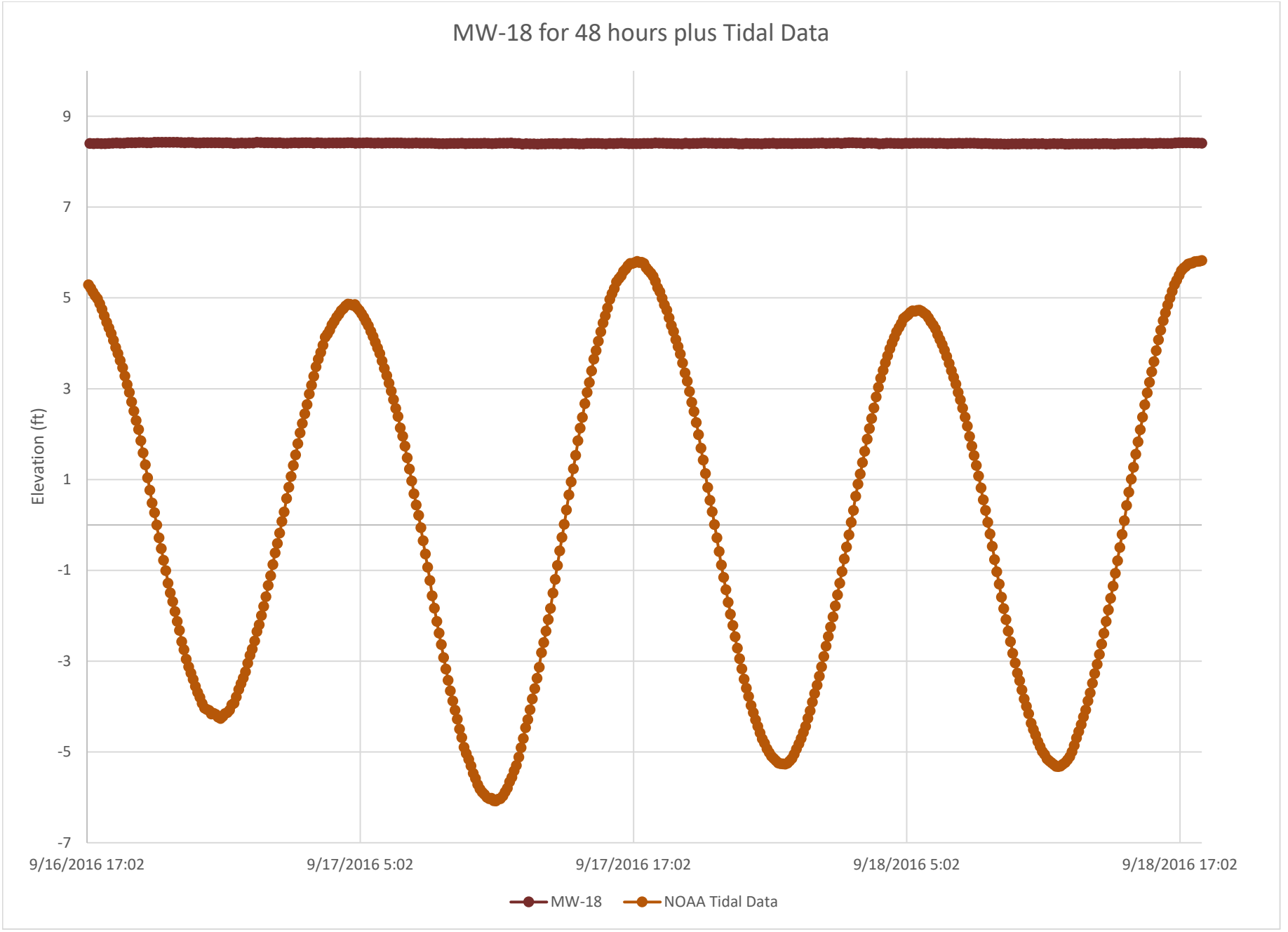

D-3 for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-3
NOAA Tidal Data

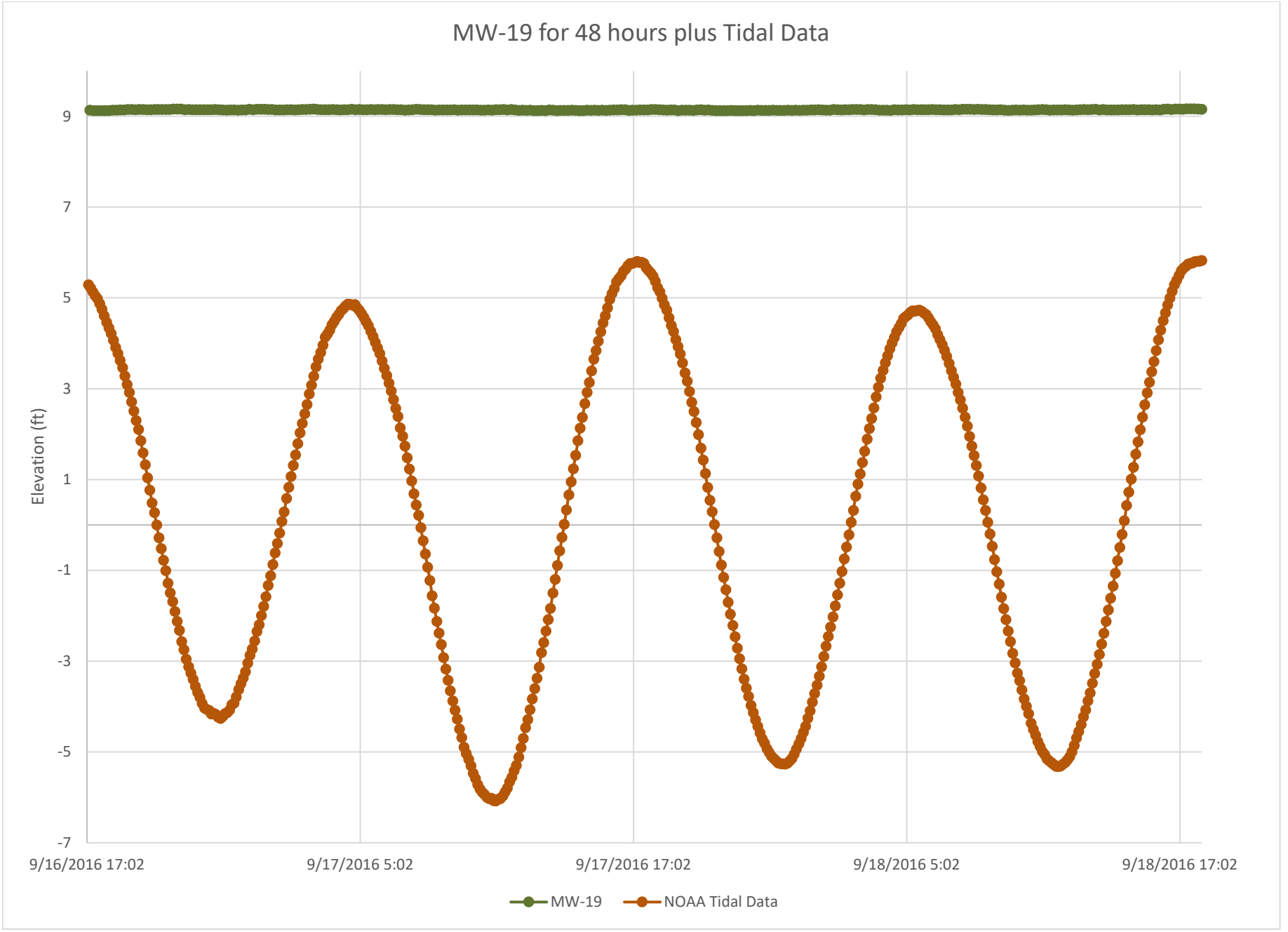

D-6 for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-6
NOAA Tidal Data

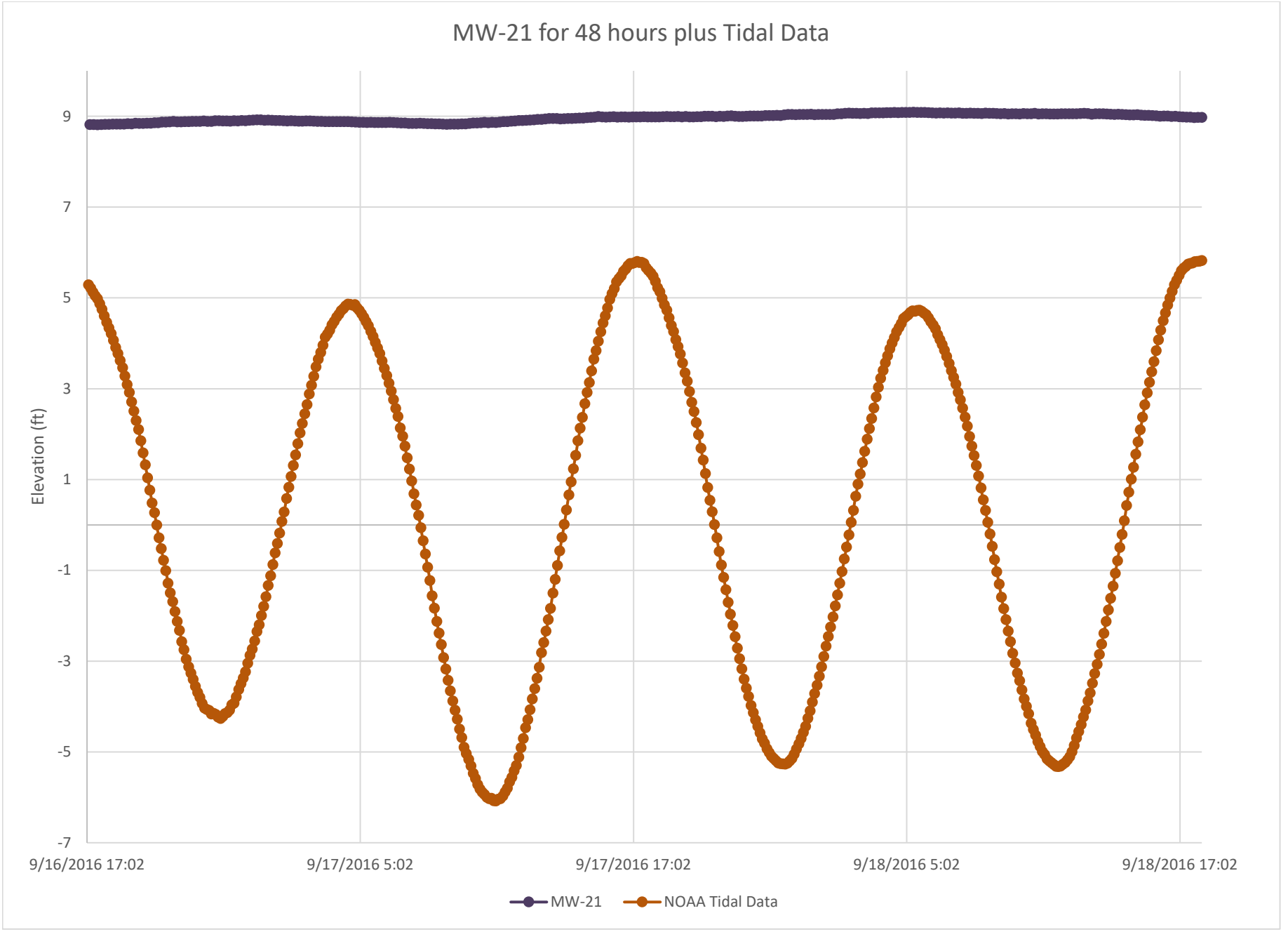

D-7 for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
D-7
NOAA Tidal Data

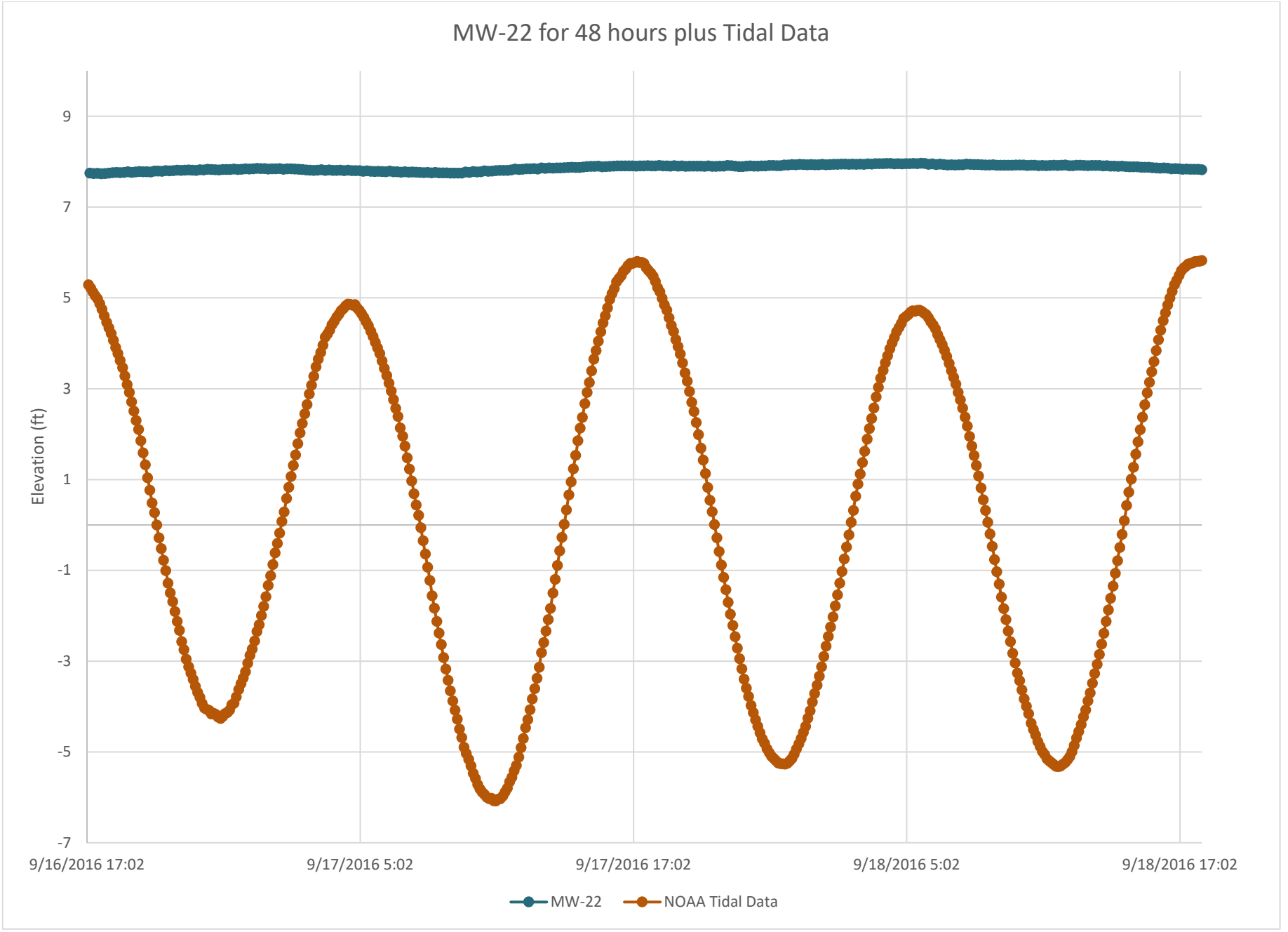

MW-10 for 48 hours plus Tidal Data
Elevation (ft)
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-10
NOAA Tidal Data


MW-14 for 48 hours plus Tidal Data
Elevation (ft)
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-14
NOAA Tidal Data


MW-18 for 48 hours plus Tidal Data
Elevation (ft)
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-18
NOAA Tidal Data


MW-19 for 48 hours plus Tidal Data
Elevation (ft)
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-19
NOAA Tidal Data


MW-21 for 48 hours plus Tidal Data
Elevation (ft)
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-21
NOAA Tidal Data


MW-22 for 48 hours plus Tidal Data
Elevation (ft)
9
7
5
3
1
-1
-3
-5
-7
9/16/2016 17:02
9/17/2016 5:02
9/17/2016 17:02
9/18/2016 5:02
9/18/2016 17:02
MW-22
NOAA Tidal Data

Appendix C

Soil Boring and Monitoring Well Construction Logs

WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington — Observation Well No. C-1

Type of Rig Auger — Installed By Pacific Testing Labs — Location Parking area — Date 6-12-84 — Time 11:15

Method of Installation Drilled and split-spoon sampled with 4" diameter hollow-stem auger to 30'. Running sand prevented casing installation. Jetted water into hole. Installed 2" PVC screen and casing. Gravel-packed. Cement grout to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

BORING

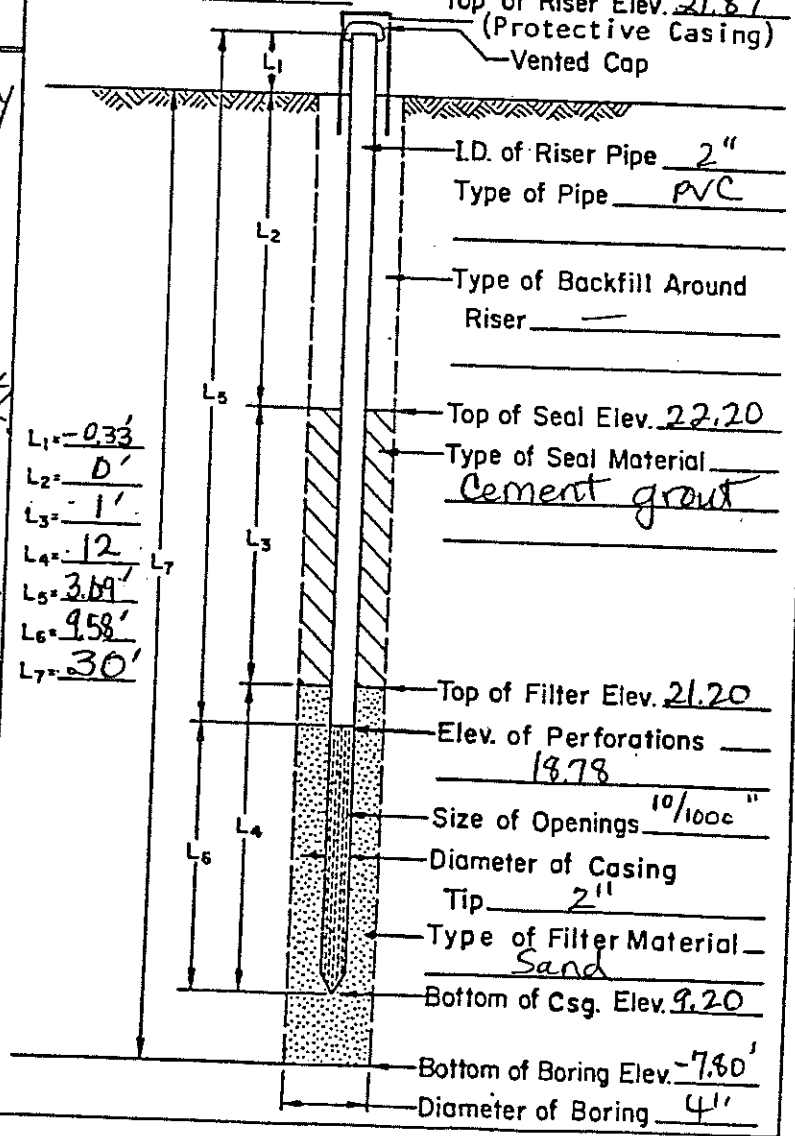
Depth in ft.	Core Run	Cored Interval	Description
0			0'-3.5': Dk. brn. gravelly clayey sand, medium-grained, no odor.
T/scr 7/20 ▽	1		3.5'-5': Dk. brn. sand and dk. gy. sand, mod. HC odor.
10	2		5'-8.5': Sand, as above.
	3		8.5'-10': Clay, highly plastic, no odor, and sand, no odor.
20	4		10'-13.5': Sand, as above.
	5		13.5'-15': Sand and highly plastic grey clay, no odor.
			15'-18.5': Plastic clay, no odor.
30	6		18.5'-20': Clay and Sand, no odor.
			20'-23.5': Dk. grey sand, no odor
			23.5-25': Dk. grey sand, no odor
			25-28.5': Sand, no odor.
			28.5'-30': Sl. sandy, clayey silt, no odor, low plasticity

Depth	Blow Counts
3.5'-5'	3, 4, 8
8.5'-10'	2, 1, 2
13.5'-15'	1, 3, 3
18.5'-20'	1, 1, 3
23.5'-25'	6, 5, 4
28.5'-30'	1, 1, 1

OBSERVATION WELL

Type of Observation Well

Ground Elev. 22.20



L1 = -0.33'
L2 = 0'
L3 = 1'
L4 = 12
L5 = 3.09'
L6 = 9.58'
L7 = 30'

Remarks During gravel-packing, some product was displaced from the hole and appeared as a brown scum on pooled water at surface.

Inspected By E. L. Haven

FIGURE 3

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant — Observation Well No. C-2

Type of Rig Auger — Installed By Pacific Testing Labs — Location In road opposite Tank #30

Date 6-12-84 — Time 14:50

Method of Installation Drilled with 4" diameter hollow-stem auger to 20', sampling with split spoon sampler every 5'. Installed 2" diameter PVC casing and screen. Gravel-packed. Cemented to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Core Box	Cored Interval	Description
0'			0'-4.5': Brown sand, clean, no odor,
T/Scr	1		4.5'-8.5': Black sand, clean, strong HC odor.
9/10 ▽			8.5'-9': Med. grey clay,
10'	2		very plastic, contains roots, no odor.
			9'-14': Black sand, clean,
	3		contains shell frags, mod. HC odor.
			14'-15': Med. gy. clay,
20'	4		plastic, contains roots, no odor.
			15'-20': Black sand, clean, contains wood chips and small fragments of bricks, contains some gravel, no HC odor.

Depth	Blow Counts
3.5'-5.0'	2, 4, 5
8.5'-10'	1, 1, 1
13.5'-15'	1, 2, 2
18.5'-20'	2, 3, 4

OBSERVATION WELL

Type of Observation Well

Ground Elev. 22.82

Top of Riser Elev. 22.57 (Protective Casing)

Vented Cop

L_1 = -0.25'

L_2 = 0

L_3 = 2.17'

L_4 = 11'

L_5 = 3.34'

L_6 = 9.58'

L_7 = 20'

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser

Top of Seal Elev. 22.82

Type of Seal Material Cement grout

Top of Filter Elev. 20.65

Elev. of Perforations 19.23

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 9.65

Bottom of Boring Elev. 2.82

Diameter of Boring 4"

Remarks Sheen around edges of pooled water at surface. (some product developed from well).

Inspected By E. L. Haven

FIGURE 4

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington Observation Well No. C-3

Location Along RR opposite Tank #3

Type of Rig Auger Installed By Pacific Testing Labs Date 6-12-84 Time 16:20

Method of Installation Drilled 4" diameter hollow-stem auger hole to 20', sampling with split-spoon sampler every 5'. Installed 2" diameter PVC casing and screen. Cemented to surface.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Sample Cored Interval	Description
0'		0'-4': Black sand, clean, mod.- strong HC odor.
4'	1	4'-5': Black clayey sand, contains shell and coal fragments and gravel, sl. odor
5'	2	5'-8.5': Black sand, clean, no odor(?)
	3	8.5'-9.5': Med. grey clay, high plasticity, abundant roots, no odor.
20'	4	9.5'-10': Black sand, sl. clayey, sl. gravelly w/ occasional shell frags, mod. HC odor.
		10'-14.25': Black sand, clean, no odor.
		14.25-14.5': Med grey clay, high plasticity, no odor.
		14.5-18.5': Black sand, clean, no odor.
		18.5-20': Black sand, clean, mod. odor, sheen inside sampler.

7 scr.

h2o

OBSERVATION WELL

Type of Observation Well —

Ground Elev. 20.77

Top of Riser Elev. 21.52 (Protective Casing)

Vented Cop

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 20.77

Type of Seal Material Cement

Top of Filter Elev. 19.02

Elev. of Perforations 17.60

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 8.02

Bottom of Boring Elev. 0.77

Diameter of Boring 4"

L_1 = 0.75'
L_2 = 0'
L_3 = 1.75'
L_4 = 11'
L_5 = 3.92'
L_6 = 9.58'
L_7 = 20'

Remorks

Depth	Blow Counts
3.5'-5'	2, 5, 8
8.5'-10'	1, 1, 2
13.5'-15'	4, 3, 3
18.5'-20'	2, 3, 6

Inspected By E. L. Haven

FIGURE 5

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington — Observation Well No. G-4

Type of Rig Auger — Installed By Pacific Testing Labs — Location SW prop. cr, near Tank #1

Date 6-12-84 — Time 17:30

Method of Installation Drilled 4" diameter hollow-stem auger hole to 20', sampling with split-spoon sampler every 5'. Installed 2" diameter PVC casing and screen. Gravel-packed and cemented to surface.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Cored Interval	Description
0		0'-8': Black sand, clean, medium-grained, mod. HC odor, vis. brown oil, stains hands.
10	1	8'-10': Dk. grey clay, high plasticity, abundant roots, no odor. Contains a 1" layer of fine-grained sand, no odor.
	2	10'-14.4': Black sand, clean, no odor.
	3	14.4'-14.5': Dk. grey clay, high plasticity, no odor.
20	4	14.5'-20': Black sand, clean, no odor. Contains occasional roots and clayey sand packets.

SWL 9/20

Depth	Blow Counts
3.5'-5'	6, 8, 10
8.5'-10'	1, 2, 3
13.5'-15'	2, 4, 6
18.5'-20'	1, 4, 7

OBSERVATION WELL

Type of Observation Well —

Ground Elev. 21.29

Top of Riser Elev. 21.33 (Protective Casing)

Vented Cap

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 21.29

Type of Seal Material Cement

Top of Filter Elev. 18.41

Elev. of Perforations 16.99

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 7.41

Bottom of Boring Elev. 1.29

Diameter of Boring 4"

L_1 = 0.04'
L_2 = 0
L_3 = 2.88'
L_4 = 11'
L_5 = 4.34'
L_6 = 9.58'
L_7 = 20'

Remarks —

Inspected By E. L. Haven

FIGURE 6

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington — Observation Well No. C-5

Type of Rig Auger — Installed By Pacific Testing Lab — Location RR siding, opp. Tank #18 — Date 6-13-84 — Time 0830

Method of Installation Drilled 4" diameter hollow-stem auger hole to 15', sampling with split-spoon sampler every 5 feet. Installed 2" diameter PVC casing and screen. Gravel-packed and cemented to surface.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Cored Interval	Description
0'	1	0'-4': Dk brn. sand, mod. silty, sl. clayey, med.-fine grained, no odor. Sand is mod. clayey from 3.5'-3.75'
4'	2	4'-8.5': Black sand, mod. silty, sl. clayey, strong HC odor.
8.5'	3	8.5'-8.6': Black sand, no odor
8.6'		8.6'-10': Med. grey clay, very plastic, abun. roots, no odor.
10'		10'-13.5': Grey clay
13.5'		13.5'-15': Black sand, med.-coarse-grained, sl. silty, no odor.

Depth	Blow Counts
3.5'-5'	2, 3, 8
8.5'-10'	2, 2, 3
13.5'-15'	1, 3, 3

OBSERVATION WELL

Type of Observation Well —

Ground Elev. 21.21 — Top of Riser Elev. 21.46 (Protective Casing) — Vented Cap

L_1 = 0.25'
L_2 = 0
L_3 = 1
L_4 = 8.75
L_5 = 0.42
L_6 = 9.58'
L_7 = 15'

I.D. of Riser Pipe 2" — Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 21.21 — Type of Seal Material Cement

Top of Filter Elev. 20.21 — Elev. of Perforations 21.04 — Size of Openings 10/1000th

Diameter of Casing Tip 2" — Type of Filter Material Sand

Bottom of Csg. Elev. 11.46 — Bottom of Boring Elev. 6.21 — Diameter of Boring 4"

Remarks Drilling spoils contaminated with product at 5'-8.5'. Sample chamber contained oil sheen for 3rd sample - possible cross-contamination. Brown scum on water at surface.

Inspected By E. L. Haven

FIGURE 7

OBSERVATION WELL INSTALLATION REPORT

C-6

Project Tacoma Bulk Plant, Washington Observation Well No. 6

Type of Rig Auger Installed By Pacific Testing Lab Location Behind barrel platform

Date 6-13-84 Time 0950

Method of Installation Drilled 4" diameter hole to 15' with hollow-stem auger sampling every 5'. Installed 2" diameter PVC casing and screen. Gravel-packed. Cemented to surface.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Sample No.	Cored Interval	Description
0'			0'-4.25': Black sand, mod. silty, strong HC odor.
	1		4.25'-4.5': Gravelly clay, gravel ≤ ½" diam, no HC odor, strong organic odor.
10	2		4.5'-5': Med. brn. gravelly sand, no HC odor, strong organic odor.
	3		5-9.8': Med. grey clay, contains abund. roots, sl. organic odor, no HC odor.
			9.8'-10': Gravelly sand, sl. HC odor
			10'-13.5': Med grey clay, plastic, no odor.
			13.5-15': Black sand, clean, medium-coarse, no HC odor.

Depth	Blow Counts
3.5'-5'	3,5,8
8.5'-10'	2,2,2
13.5'-15'	1,1,2

OBSERVATION WELL

Type of Observation Well _____

Ground Elev. 20.47

Top of Riser Elev. 21.26 (Protective Casing)

Vented Cop

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 20.47

Type of Seal Material Cement grout.

L_1 = 0.79'
L_2 = 0
L_3 = 1'
L_4 = 9.21
L_5 = 0.42'
L_6 = 9.58'
L_7 = 15'

Top of Filter Elev. 19.47

Elev. of Perforations 20.84

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 11.26

Bottom of Boring Elev. 5.47

Diameter of Boring 4"

Remarks 0.37' of screen protrudes above grade. Filled in perforations with cement to prevent downward seepage of surface runoff.

Inspected By F. L. Haven

FIGURE 8

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington Observation Well No. C-7

Location Side gate

Type of Rig Auger Installed By Pacific Testing Labs Date 6-13-84 Time 1315

Method of Installation Drilled 4" diameter hole with hollow stem auger, sampling every 5' to 15'. Installed 2" diameter PVC casing and screen. Gravel-packed. Cemented to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Core	Cored Interval	Description
0 (Surface)			0'-1': Asphalt, concrete & gravel
		1	1'-8.5': Dk. brn. sand, medium-coarse grained, sl. gravelly, sl. silty, contains shells, no HC odor.
10		2	
		3	8.5'-9.5': Dk. grey clay, high plasticity, contains abundant roots and pockets of organic material. No HC odor.
			9.5'-10': Dk. brn. sand, clean, contains shells, sl. HC odor.
			10'-14.5': Dk. brn. sand, clean, no HC odor.
			14.5-15': Dk. grey clay, high plasticity, high organic content. No HC odor

Depth	Blow Counts
3.5'-5'	3, 5, 5
8.5'-10'	1, –, 6
13.5'-15'	2, 2, 2

OBSERVATION WELL

Type of Observation Well

Ground Elev. 21.84

Top of Riser Elev. 21.67 (Protective Casing)

Vented Cop

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 21.84

Type of Seal Material Cement

Top of Filter Elev. 20.84

Elev. of Perforations 21.25

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 11.67

Bottom of Boring Elev. 6.84

Diameter of Boring 4"

L_1 = -0.17'
L_2 = 0'
L_3 = 1'
L_4 = 8.83'
L_5 = 0.42'
L_6 = 9.58'
L_7 = 15'

Remarks

Inspected By E. L. Haven

FIGURE 9

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington — Observation Well No. G-8

Type of Rig Auger — Installed By Pacific Testing Lab — Location Adjacent to T.T.L.R. #1

Date 6-13-84 — Time 14:30

Method of Installation Drilled 4" diameter hole to 15', with hollow-stem auger, sampling every 5'. Installed 2" diameter PVC casing and screen. Gravel-packed. Cemented to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Cored Intervals	Description
0		0'-1': Asphalt & concrete
1	1	1'-8.5': Black sand, clean, medium-grained, contains occasional gravel and abundant shells. Moderate HC odor.
10	2	
	3	
		8.5-9.5': Dk. grey clay, high organic content, contains abund. roots, no HC odor (sheen on sample).
		9.5'-13.8': Black sand, sl. gravelly, otherwise clean, Mod. HC odor decreasing to slight at 13.5'-13.8'.
		13.8'-14.1': Dk. grey clay, high plasticity, no odor.
		14.1'-15': Black sand, clean, mod. HC odor, sheen inside sampler (cross-contamination?)

OBSERVATION WELL

Type of Observation Well —

Ground Elev. 22.27

Top of Riser Elev. 22.06 (Protective Casing)

Vented Cap

I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 22.27

Type of Seal Material Cement

Top of Filter Elev. 21.27

Elev. of Perforations 21.64

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 12.06

Bottom of Boring Elev. 7.27

Diameter of Boring 4"

L_1 = -0.21'
L_2 = 0'
L_3 = 1'
L_4 = 9.21'
L_5 = 0.42'
L_6 = 9.58'
L_7 = 15'

Remarks

Depth	Blow Counts
3.5'-5'	4, 6, 6
8.5'-10'	1, 1, 1
13.5'-15'	1, —, 1

Inspected By E. L. Haven

FIGURE 10

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant, Washington Observation Well No. G-9

Type of Rig Auger Installed By Pacific Testing Labs Location In yard, across from Tank #

Date 6-13-84 Time 1540

Method of Installation Drilled 4" diameter hole to 15' with hollow-stem auger, sampling with split spoon every 5'. Installed 2" PVC screen. Gravel-packed, cemented to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

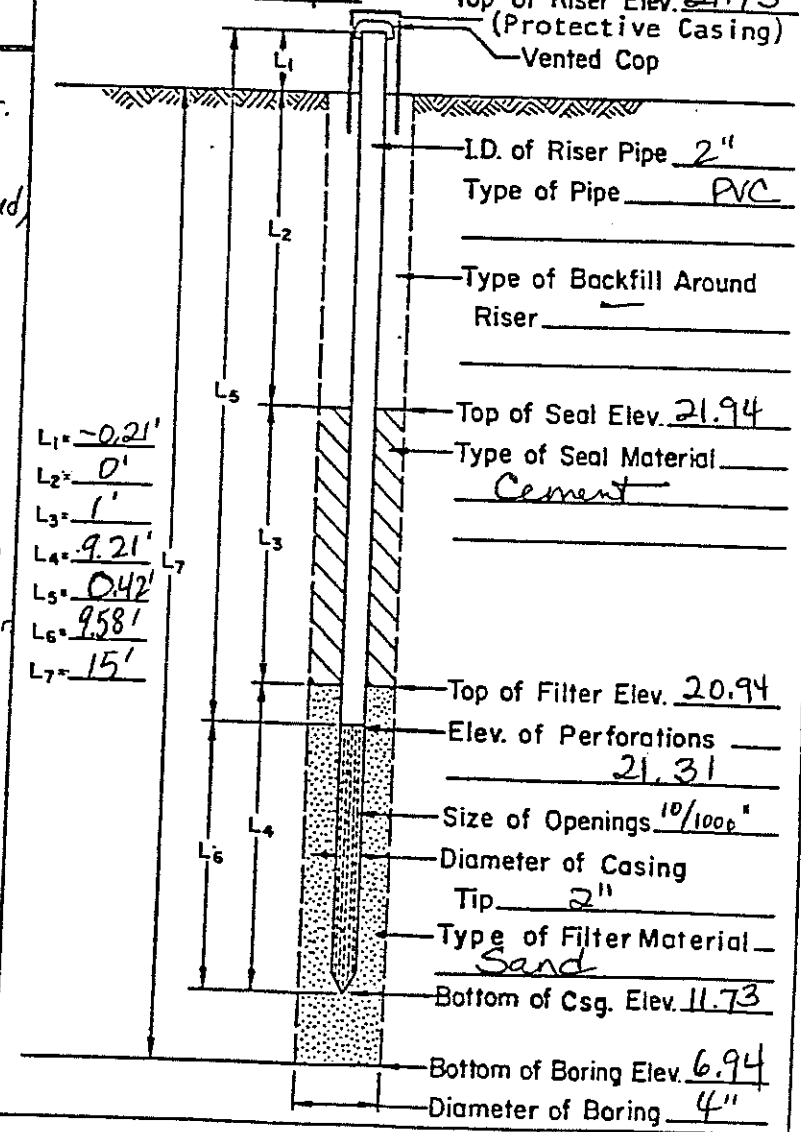
BORING

Depth in ft.	Cored Interval	Description
0'		0'-3.5': Brown sand, sl. silty, mod. HC odor.
	1	3.5'-4.5': Black sand, very fine to medium grained, sl. silty, sl. gravelly, strong HC odor.
10'	2	
	3	4.5'-5': Dk. brn. sand, as above at 3.5'-4.5'.
		5-8.5': Black sand, clean, contains shells, strong HC odor.
		8.5-9.5': Dk. grey clay, very plastic, high organic content (roots); no HC odor
		9.5'-10': Dk. brn. sand, clean, contains shells, slight HC odor.
		10'-13.5': Grey clay, plastic, no HC odor.
		13.5'-15': Black sand, contains abundant shells, no odor. Contains 3" clay seam.

OBSERVATION WELL

Type of Observation Well

Ground Elev. 21.94



L1 = -0.21'
L2 = 0'
L3 = 1'
L4 = 9.21'
L5 = 0.42'
L6 = 9.58'
L7 = 15'

Top of Riser Elev. 21.73 (Protective Casing)
Vented Cop
I.D. of Riser Pipe 2"
Type of Pipe PVC
Type of Backfill Around Riser
Top of Seal Elev. 21.94
Type of Seal Material Cement
Top of Filter Elev. 20.94
Elev. of Perforations 21.31
Size of Openings 10/100"
Diameter of Casing Tip 2"
Type of Filter Material Sand
Bottom of Csg. Elev. 11.73
Bottom of Boring Elev. 6.94
Diameter of Boring 4"

Remarks

Depth	Blow Counts
3.5'-5'	2, 3, 4
8.5'-10'	1, -, -
13.5'-15'	1, -, -

Inspected By E. L. Haven

FIGURE 11

OBSERVATION WELL INSTALLATION REPORT

Project Tacoma Bulk Plant Washington — Observation Well No. C-10

Type of Rig Auger — Installed By Pacific Testing Lab — Location Adjacent to T.T.L.R.#2 — Date 6-13-84 — Time 1715

Method of Installation Drilled 4" hole to 15' using hollow-stem auger, sampling every 5' with split spoon. Installed PVC screen. Gravel-packed. Cemented to surface. Installed utility box and finished at grade.

LOG OF BORING AND OBSERVATION WELL

BORING

Depth in ft.	Sample Cored Interval	Description
0		0'-1.5': Asphalt, concrete, and gravel.
	1	1.5'-3.5': Black sand, clean, contains some shells, mod. HC odor.
10	2	3.5'-8.5': Black sand, sl. clayey, occas. gravel, fine to coarse-grained, strong HC odor, stains hands.
	3	8.5'-9.75': Dk. grey clay, high plasticity, contains roots and organics, no odor.
		9.75'-10': Black sand, clean, contains wood fragments, strong HC odor.
		10'-14': Black sand, fine-grained, very clayey, no odor.
		14'-15': Dk. grey clay, plastic, no odor.

Tscr. — H2O

Depth	Blow Counts
3.5-5'	2,5,7
8.5'-10'	1,-,6
13.5'-15'	2,2,4

OBSERVATION WELL

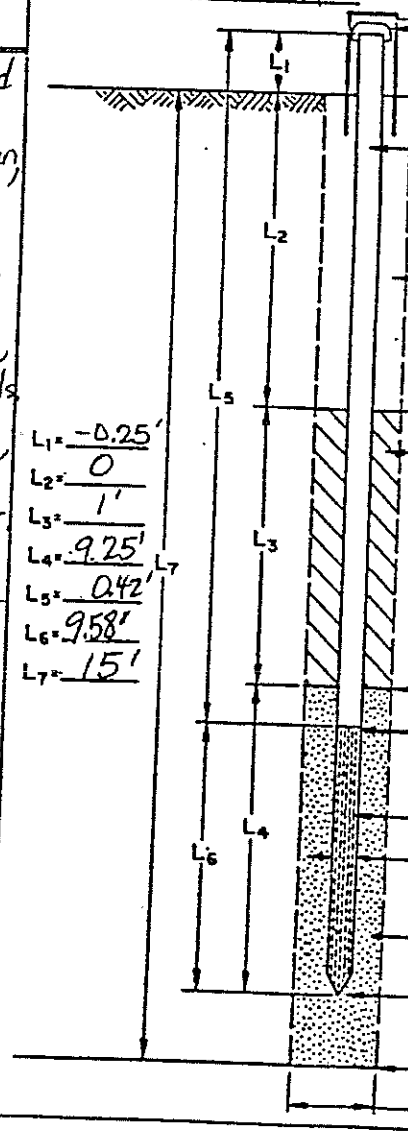
Type of Observation Well

Ground Elev. 22.11

Top of Riser Elev. 21.86 (Protective Casing)

Vented Cap

L1 = -0.25'
L2 = 0
L3 = 1'
L4 = 9.25'
L5 = 0.42'
L6 = 9.58'
L7 = 15'



I.D. of Riser Pipe 2"

Type of Pipe PVC

Type of Backfill Around Riser —

Top of Seal Elev. 22.11

Type of Seal Material Cement

Top of Filter Elev. 21.11

Elev. of Perforations 21.44

Size of Openings 10/1000"

Diameter of Casing Tip 2"

Type of Filter Material Sand

Bottom of Csg. Elev. 11.86

Bottom of Boring Elev. 6.86

Diameter of Boring 4"

Remarks

Inspected By E. L. Haven

FIGURE 12

BORING NO. B-1

TEST DATA

Lab Tests	Moisture Content	Dry Density	Blow-Count	Samples	Group Symbol	DESCRIPTION Surface Elevation: Approximately 10 Feet
					SP	DARK BROWN FINE SAND (MEDIUM DENSE, DENSE, MOIST)
			14	CA		
						GRADES TO DARK BROWN FINE SAND WITH SHELL FRAGMENTS AND A TRACE OF SILT (LOOSE, MOIST)
			10			
						▽ WATER LEVEL AT 10.5 FEET ON 10/18/88
					SP-SM	DARK BROWN FINE SAND WITH SILT AND OCCASIONAL SHELL FRAGMENTS (LOOSE, WET)
			10	CA		
			11		ML	DARK BROWN SILT WITH FINE SAND (STIFF, WET) BORING COMPLETED AT 19.0 FEET ON 10/18/88

DEPTH IN FEET

0, 5, 10, 15, 20, 25, 30, 35, 40

Note: See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF BORING

FIGURE A-3

0372-57-4 KEF WKT 10-28-88

BORING NO. B-2

TEST DATA

Lab Tests	Moisture Content	Dry Density	Blow-Count	Samples	Group Symbol	DESCRIPTION
						Surface Elevation: Approximately 10 Feet
					SP	DARK BROWN FINE SAND WITH A TRACE OF ORGANICS (MEDIUM DENSE, MOIST)
			16	CA		
						TRACE OF SHELL FRAGMENTS AT 8.0 FEET
			19			▽ WATER LEVEL AT 10.0 FEET ON 10/18/88
					SP-SM	DARK BROWN FINE SAND WITH SILT AND A TRACE OF SHELL FRAGMENTS (LOOSE, WET) SLIGHT MUSTY ODOR
			8	CA		
						BORING COMPLETED AT 14.0 FEET ON 10/18/88

DEPTH IN FEET

0, 5, 10, 15, 20, 25, 30, 35, 40

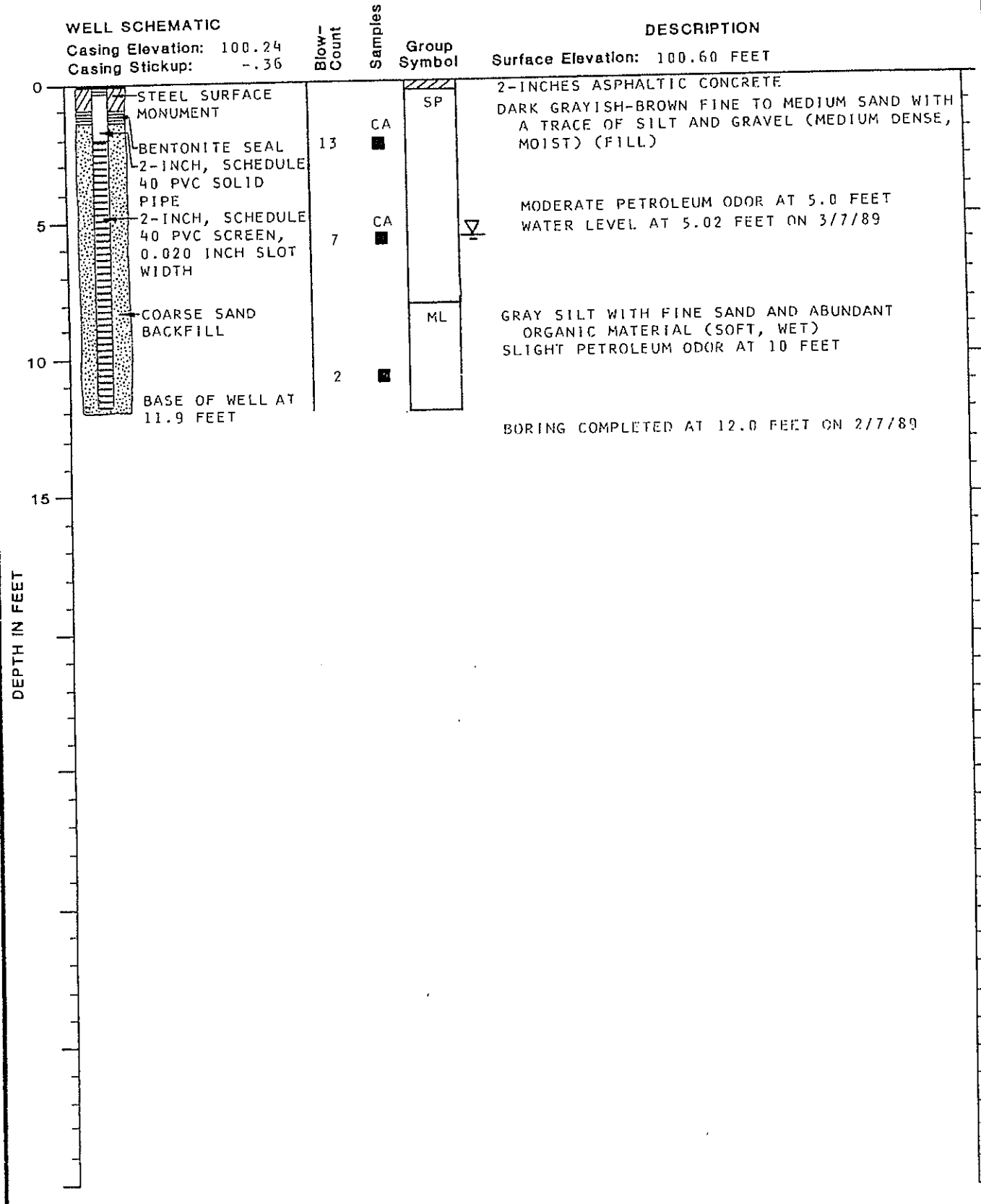
Note: See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF BORING

FIGURE A-4

MONITOR WELL NO. MW-1



Note: See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-3

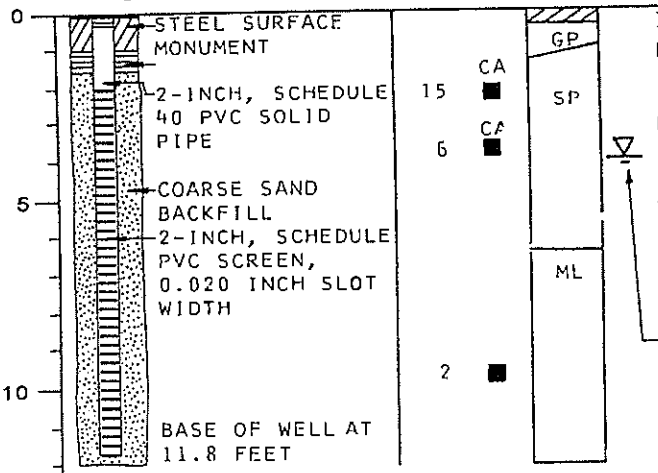
0372-38-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-2

WELL SCHEMATIC
Casing Elevation: 99.67
Casing Stickup: -.32

Blow-Count | Samples | Group Symbol

DESCRIPTION
Surface Elevation: 99.99 FEET



3-INCHES ASPHALTIC CONCRETE

BROWN GRAVEL WITH SAND AND A TRACE OF SILT AND OCCASIONAL LARGE BRICK FRAGMENTS (MEDIUM DENSE, MOIST) (FILL)

DARK GRAY FINE SAND WITH A TRACE OF SILT AND OCCASIONAL SHELL FRAGMENTS (MEDIUM DENSE, MOIST TO WET)(FILL)

MODERATE PETROLEUM ODOR AT 1.5 FEET

GRADES TO LOOSE

MODERATE PETROLEUM ODOR AT 4.0 FEET

GRAY SILT WITH ABUNDANT ORGANIC MATERIAL (SOFT, WET)

WATER LEVEL AT 3.5 FEET ON 3/7/89

BORING COMPLETED AT 12.0 FEET ON 2/7/89

15

DEPTH IN FEET

Note: See Figure A-2 for Explanation of Symbols

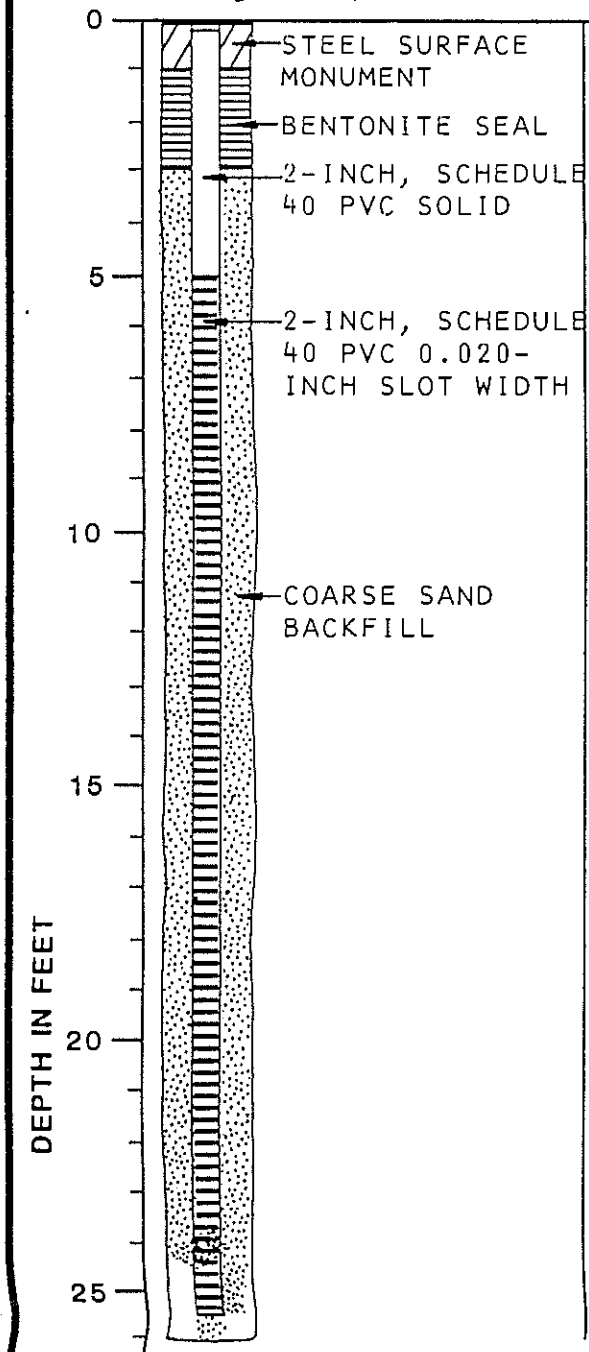
0372-38-4 WSL:RK: 03/06/89

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-4

MONITOR WELL NO. MW-3



Blow-Count	Samples	Group Symbol	DESCRIPTION Surface Elevation: Approximately 10 Feet
		SP	DARK BROWN FINE SAND WITH FINE GRAVEL (LOOSE, MOIST) (FILL)
		SP	TENDS TO BROWN SAND WITH OCCASIONAL FINE GRAVEL, A TRACE OF SILT AND A TRACE OF SHELL FRAGMENTS (MEDIUM DENSE, MOIST)
24	CA ■		
			GRADES TO LOOSE AT 8.0 FEET
			▽ WATER LEVEL AT 7.88 FEET ON 11/2/88
10	■		
		SP-SM	DARK BROWN FINE SAND WITH SILT (MEDIUM DENSE, WET)
12	CA ■		STRONG PETROLEUM ODOR DETECTED AT 13.0 FEET
11	■		MODERATE PETROLEUM ODOR DETECTED AT 18.0 FEET
31	■		NO PETROLEUM ODOR DETECTED AT 23.0 FEET
			BORING COMPLETED AT 26.0 FEET ON 10/18/88

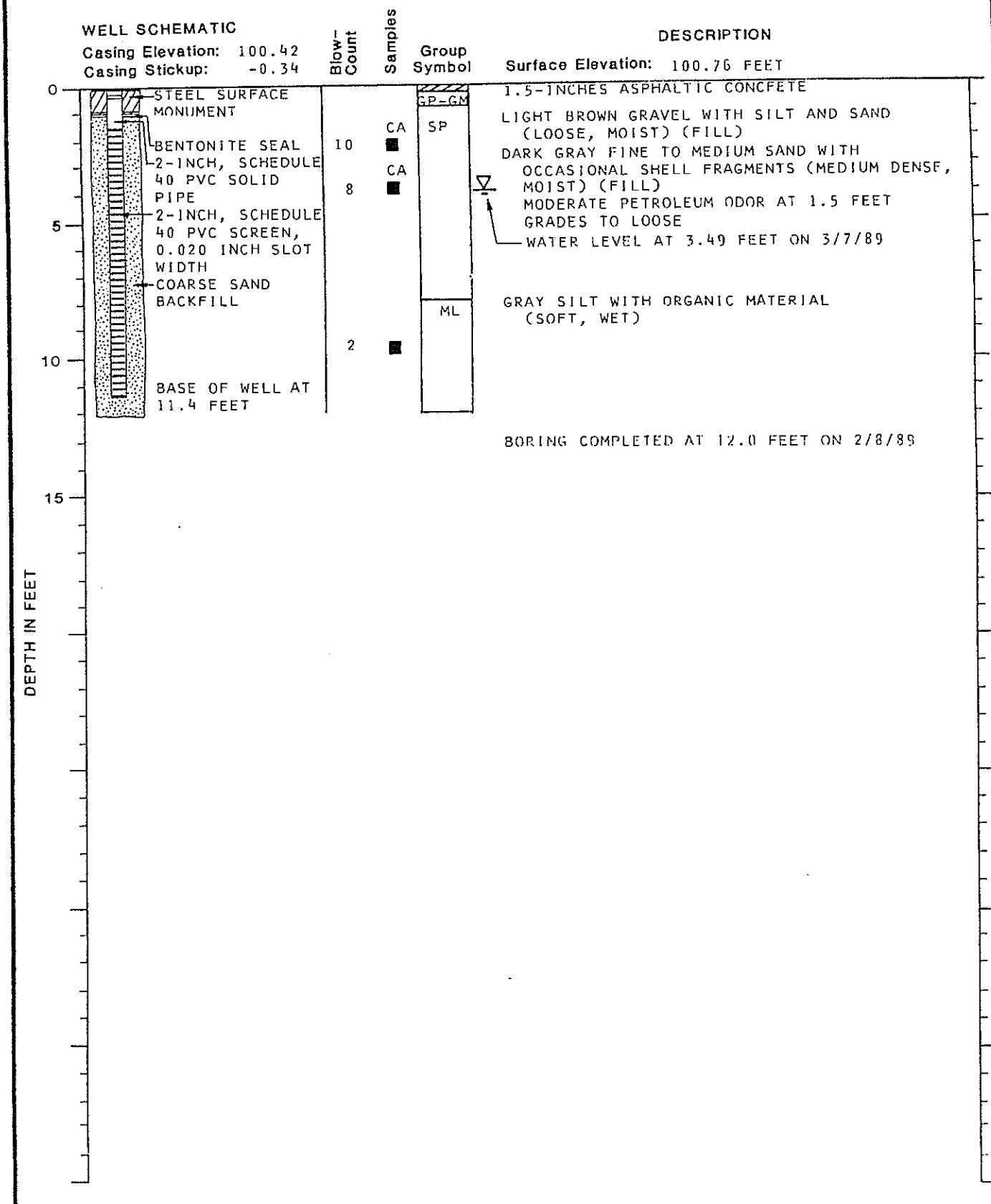
Note: See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-5

MONITOR WELL NO. MW-3



Note: See Figure A-2 for Explanation of Symbols

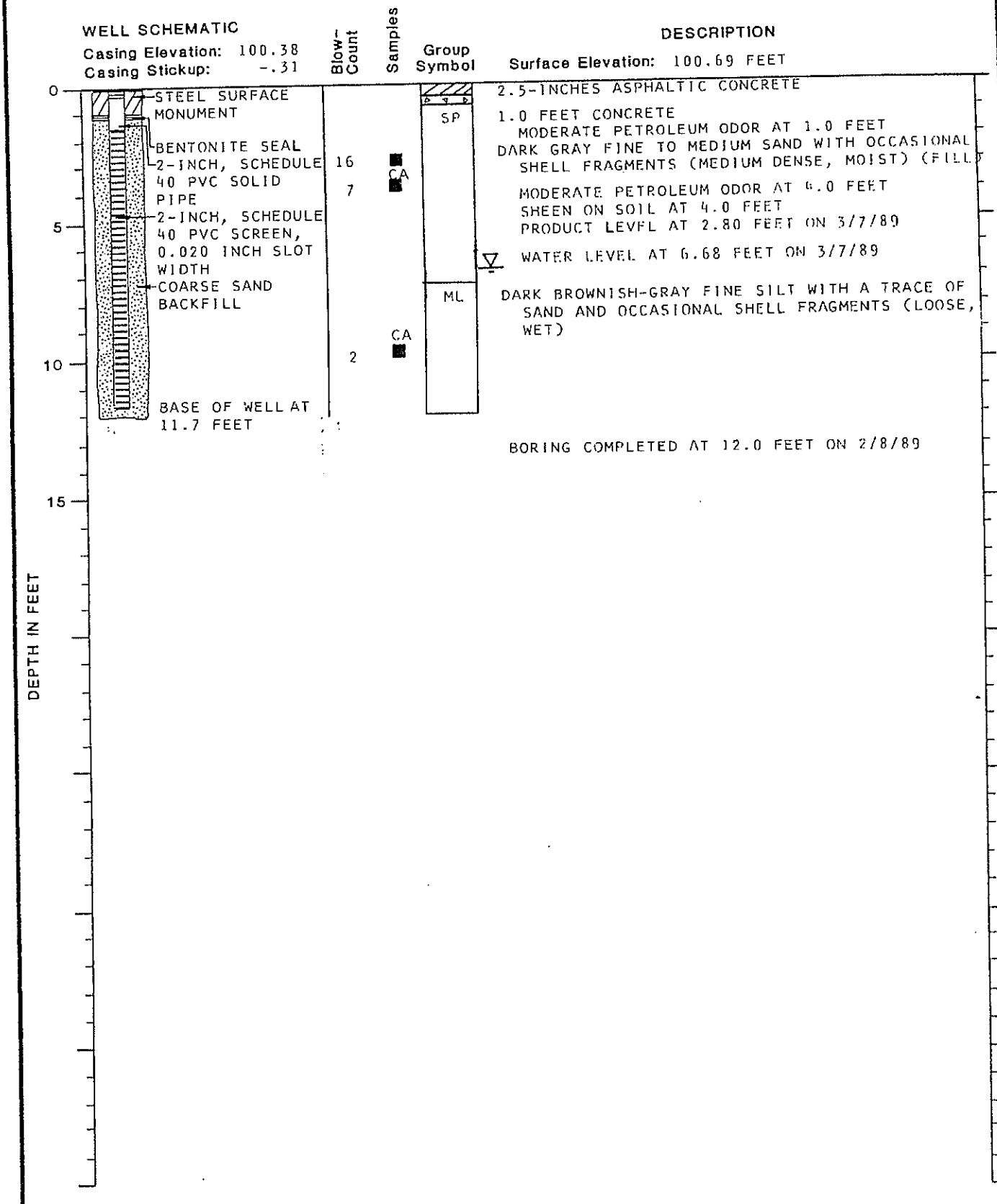
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-5

0372-38-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-4



Note: See Figure A-2 for Explanation of Symbols

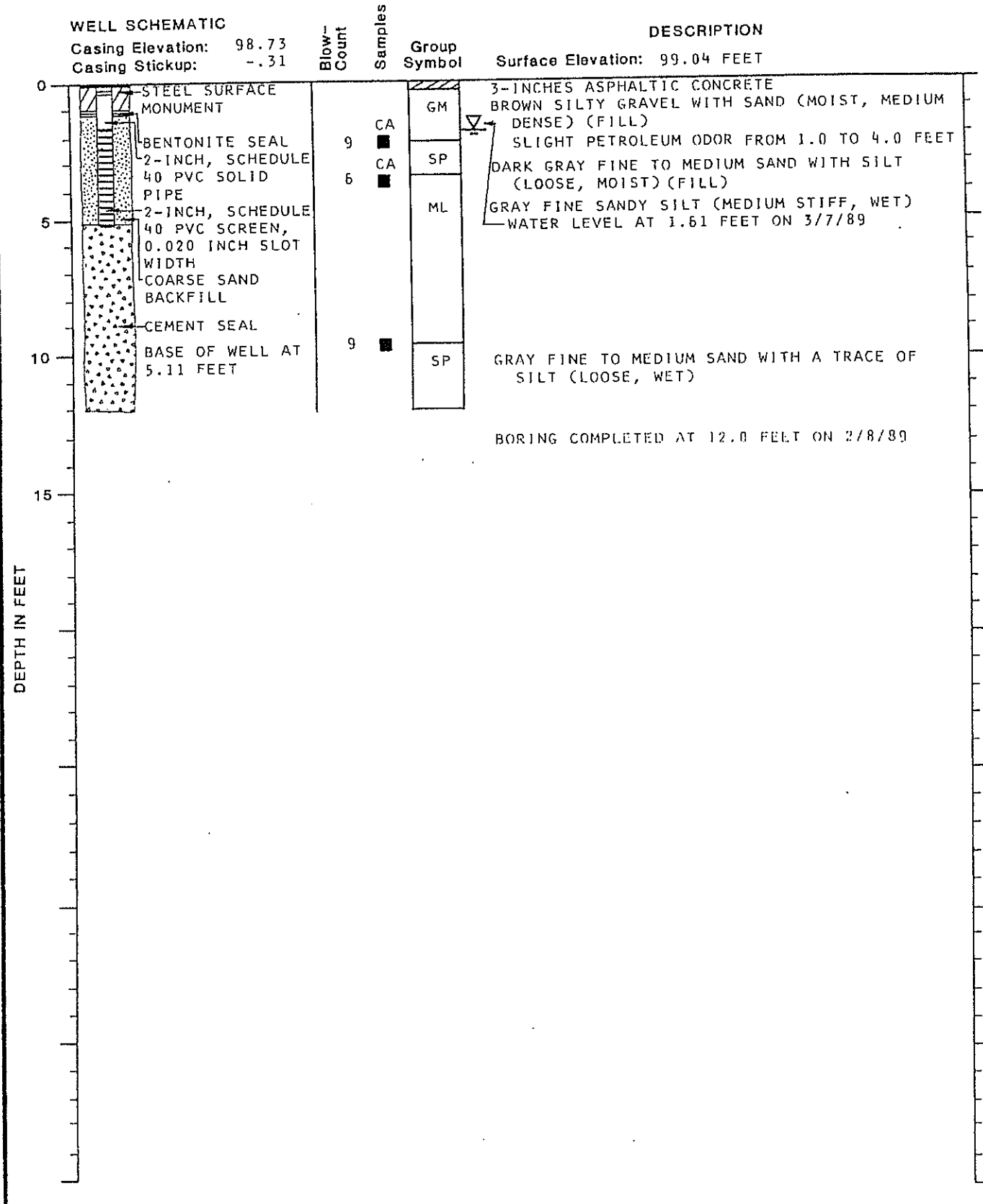
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-6

0372-38-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-5



Note: See Figure A-2 for Explanation of Symbols

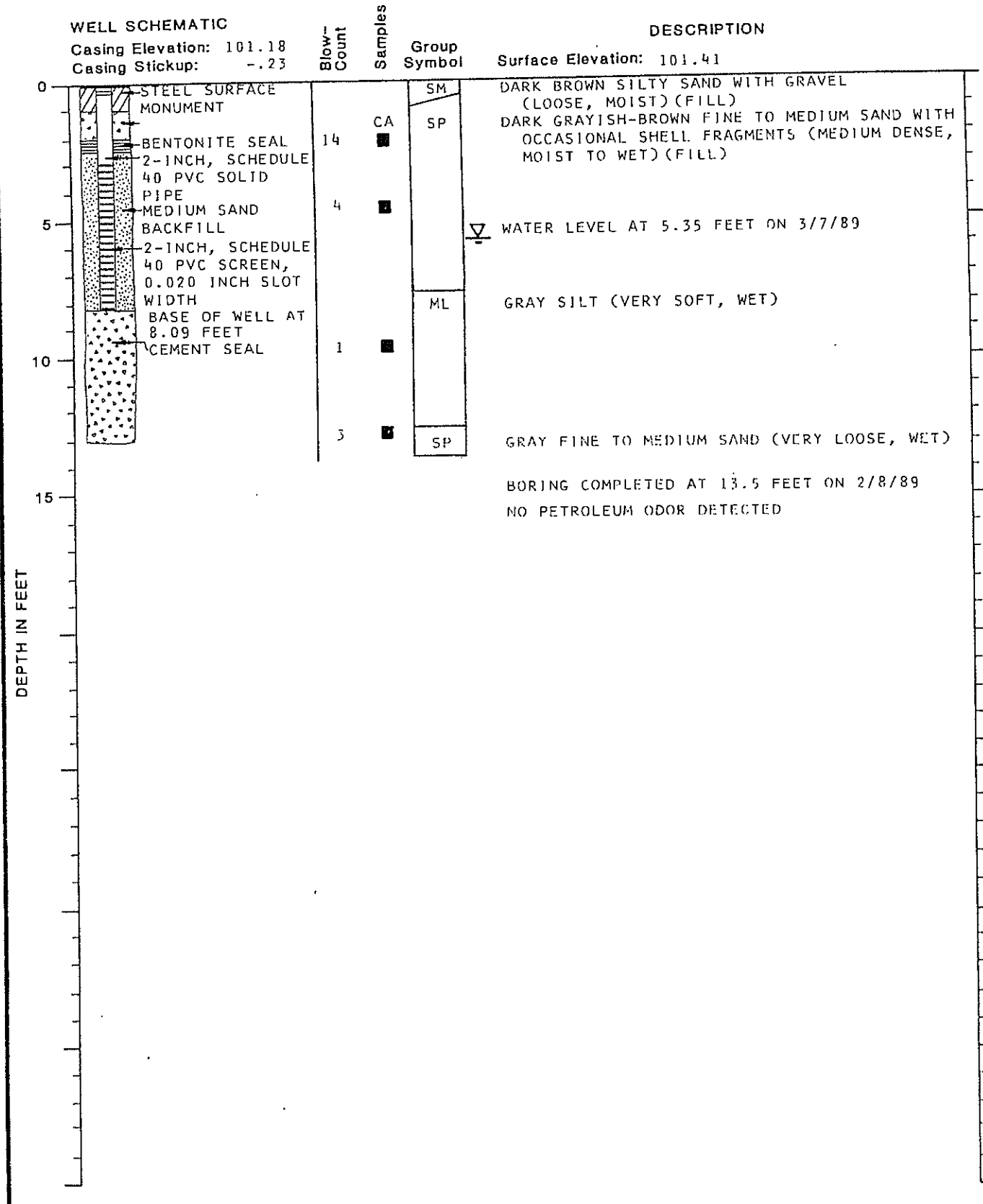
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-7

0372-038-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-6



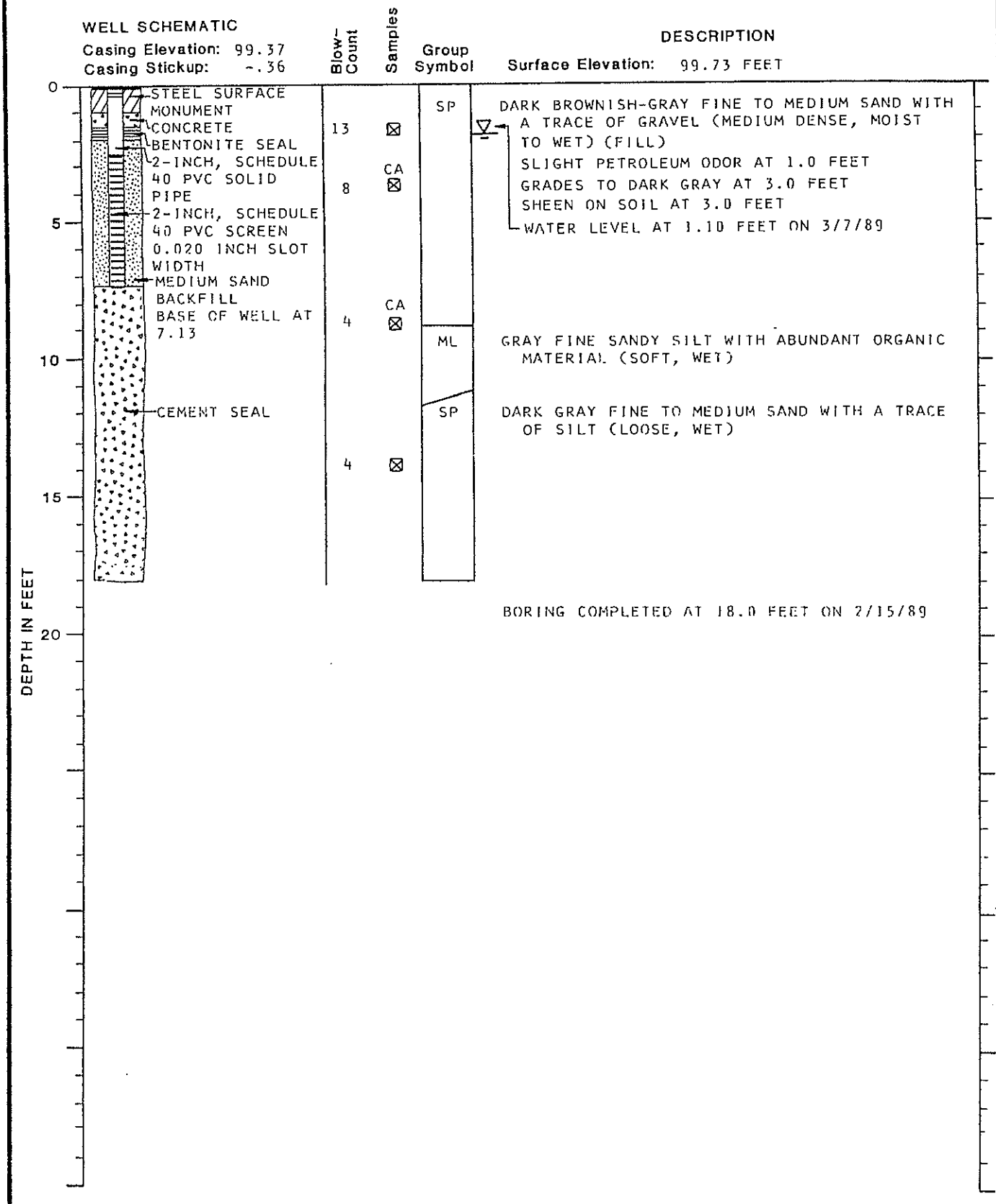
Note: See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-8

MONITOR WELL NO. MW-7



Note: See Figure A-2 for Explanation of Symbols

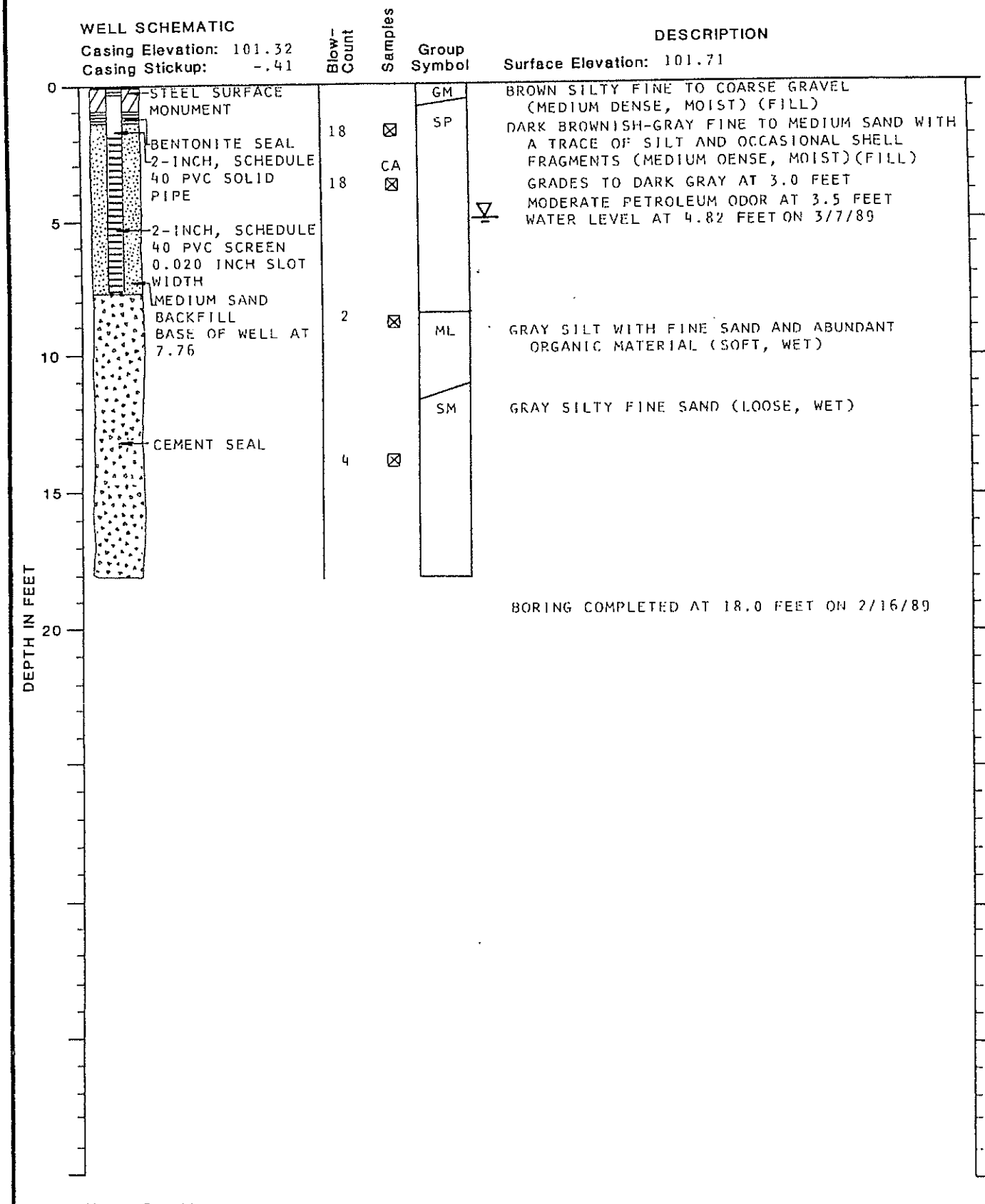
0372-38-4 WSL:RK: 03/06/89

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-9

MONITOR WELL NO. MW-8



Note: See Figure A-2 for Explanation of Symbols

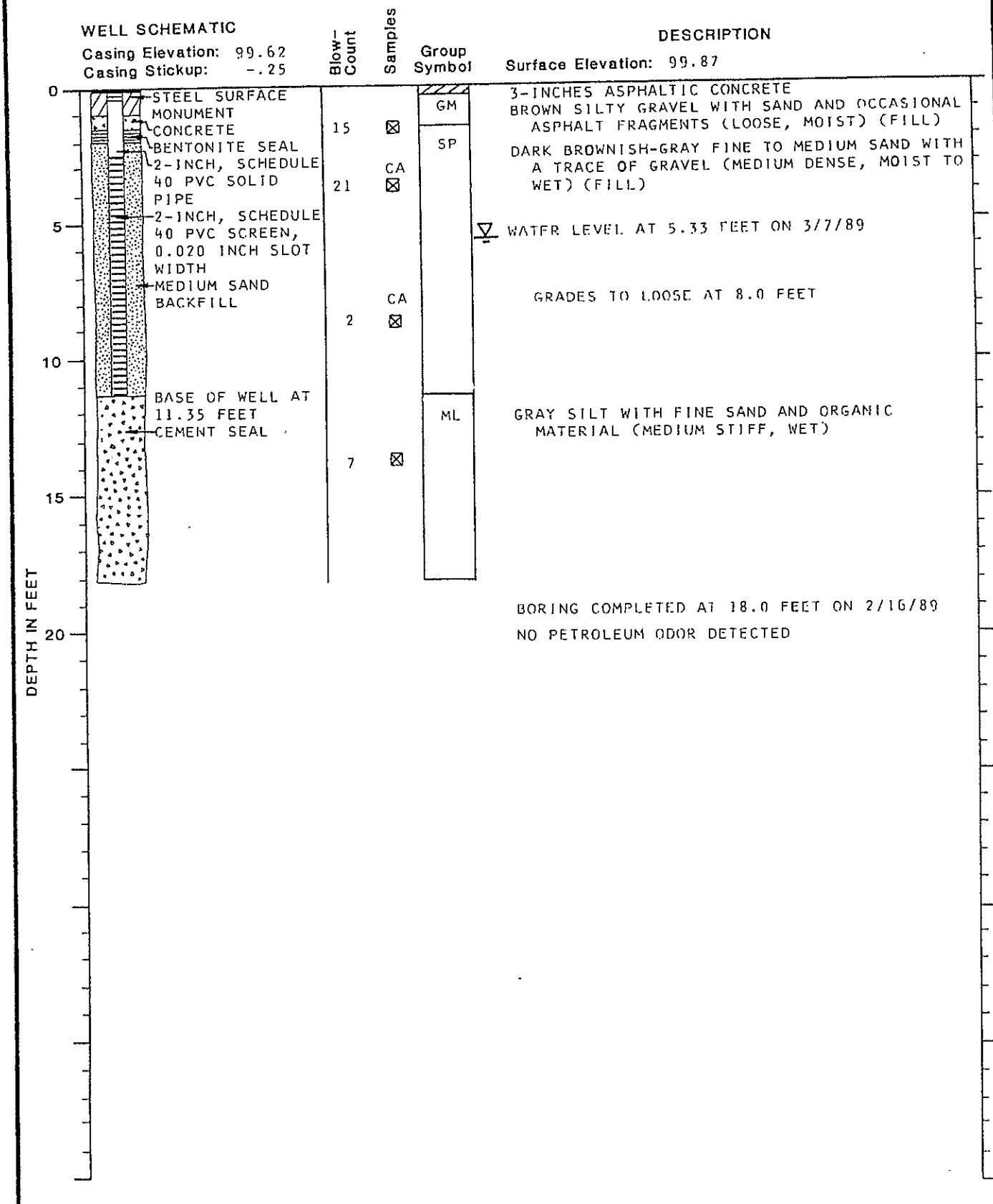
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-10

0372-38-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-9



Note: See Figure A-2 for Explanation of Symbols

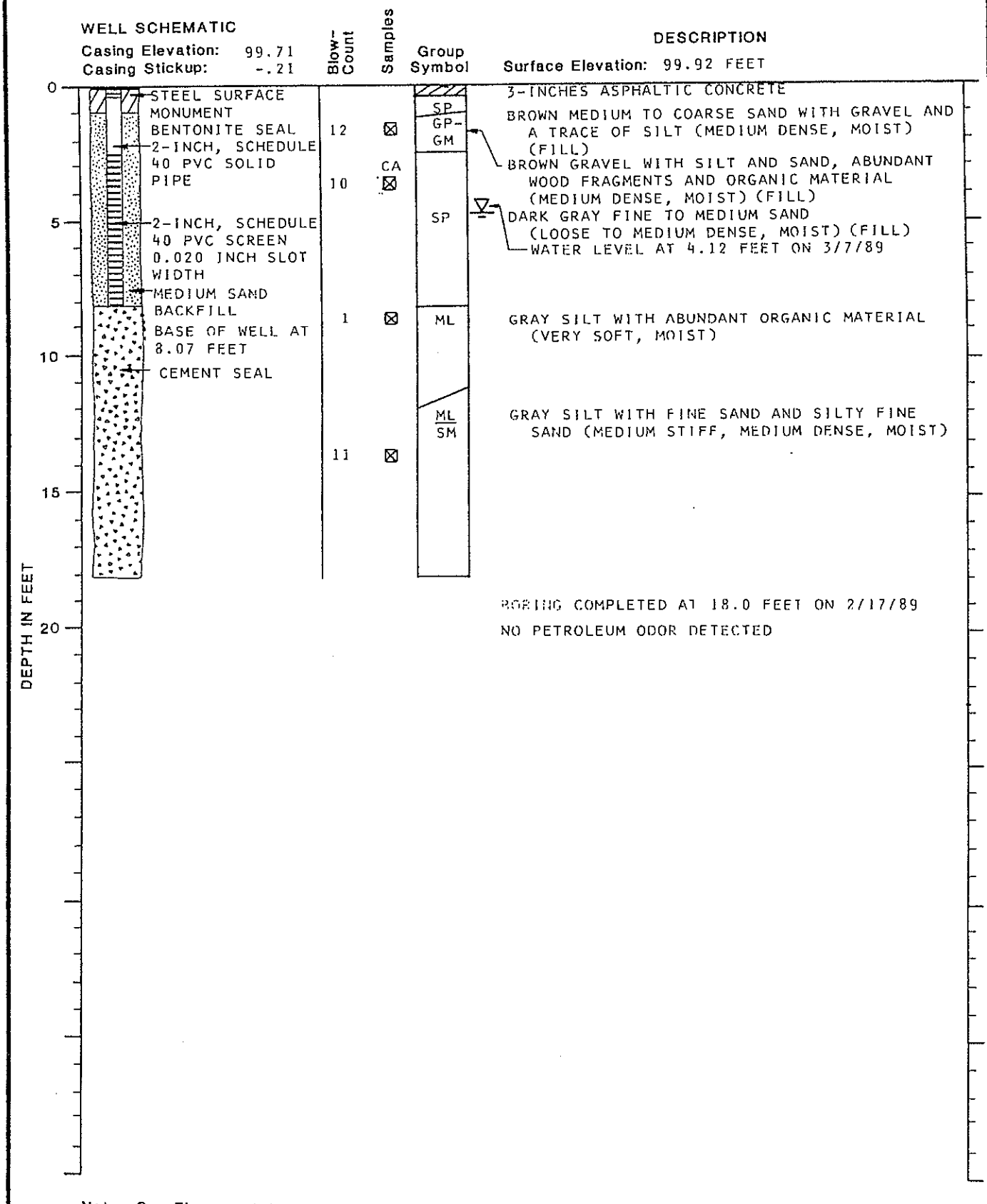
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-11

0372-38-4 WSL:RK 03/06/89

MONITOR WELL NO. MW-10



Note: See Figure A-2 for Explanation of Symbols

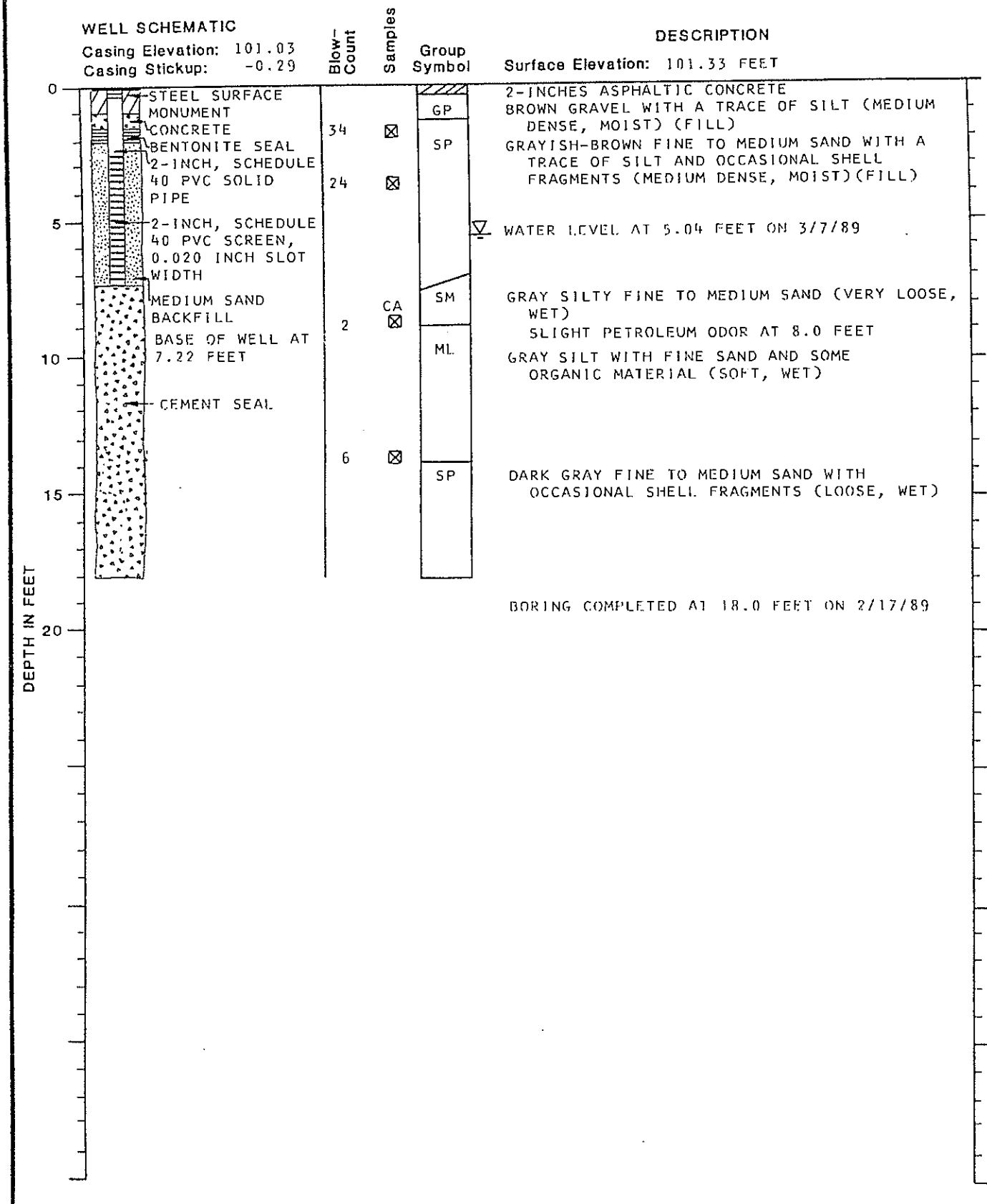
0372-38-4 WSL:RK: 03/06/89

Geo Engineers

LOG OF MONITOR WELL

FIGURE A-12

MONITOR WELL NO. MW-11



Note: See Figure A-2 for Explanation of Symbols

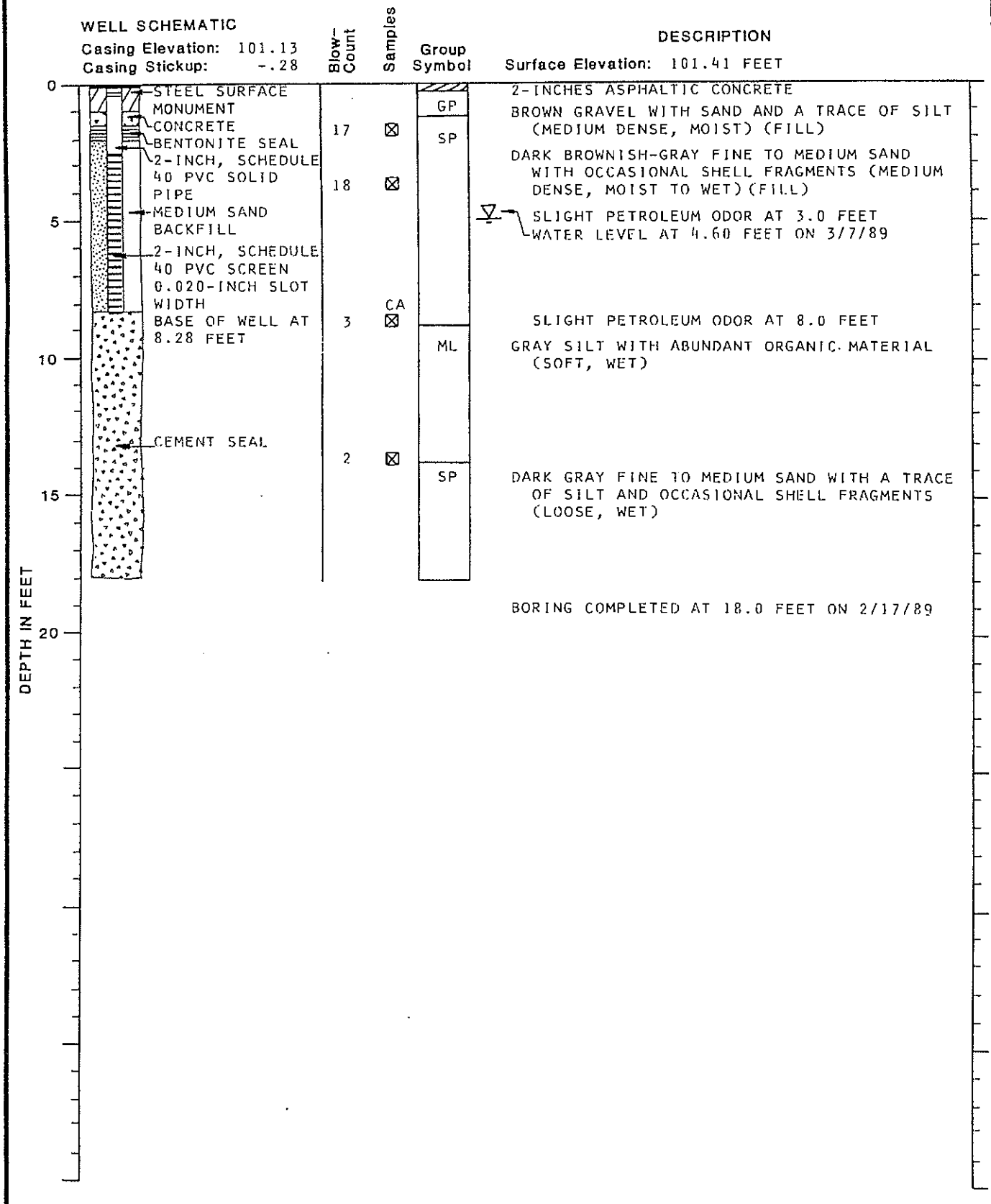
GeoEngineers

LOG OF MONITOR WELL

FIGURE A-13

0372-38-4 WSL:RK: 03/06/89

MONITOR WELL NO. MW-12



Note: See Figure A-2 for Explanation of Symbols

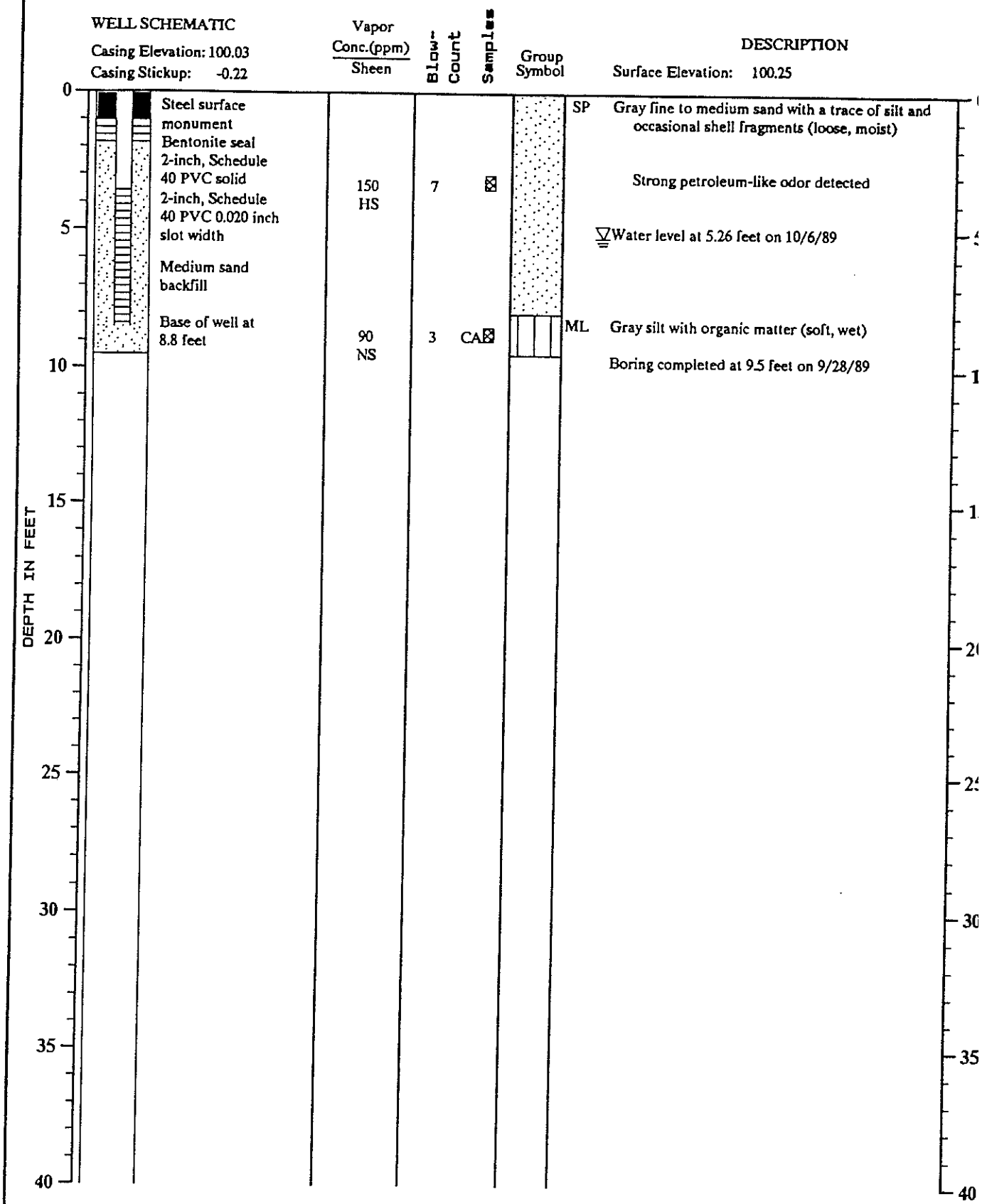
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-14

0372-38-4 WSL:JF:DK 3/15/89

MONITOR WELL NO. MW-14



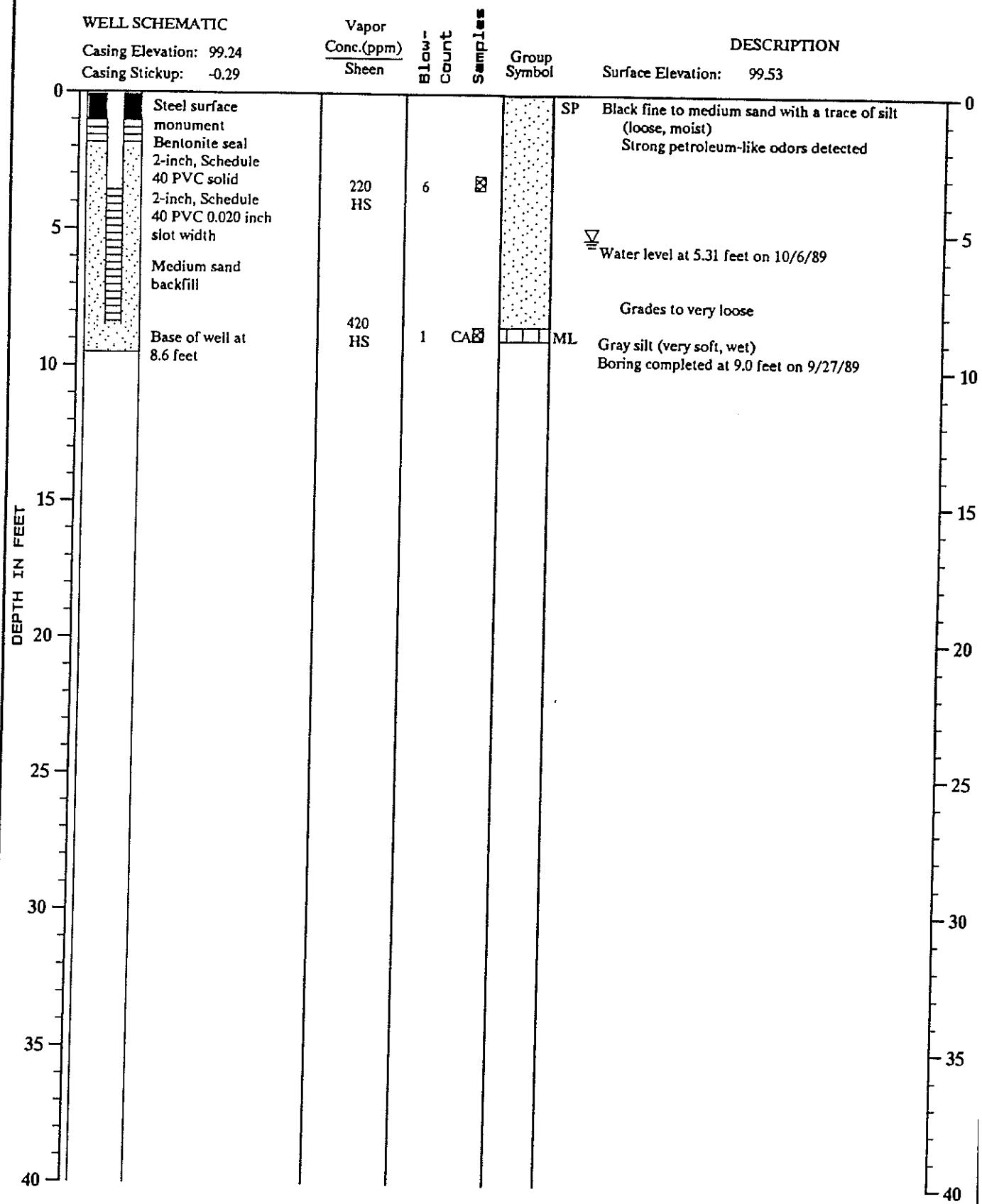
Note: See Figure A-2 for explanation symbols

Log of Monitor Well

Figure A-9

0372-046-B04 :REJ:CDO 10/27/89

MONITOR WELL NO. MW-15



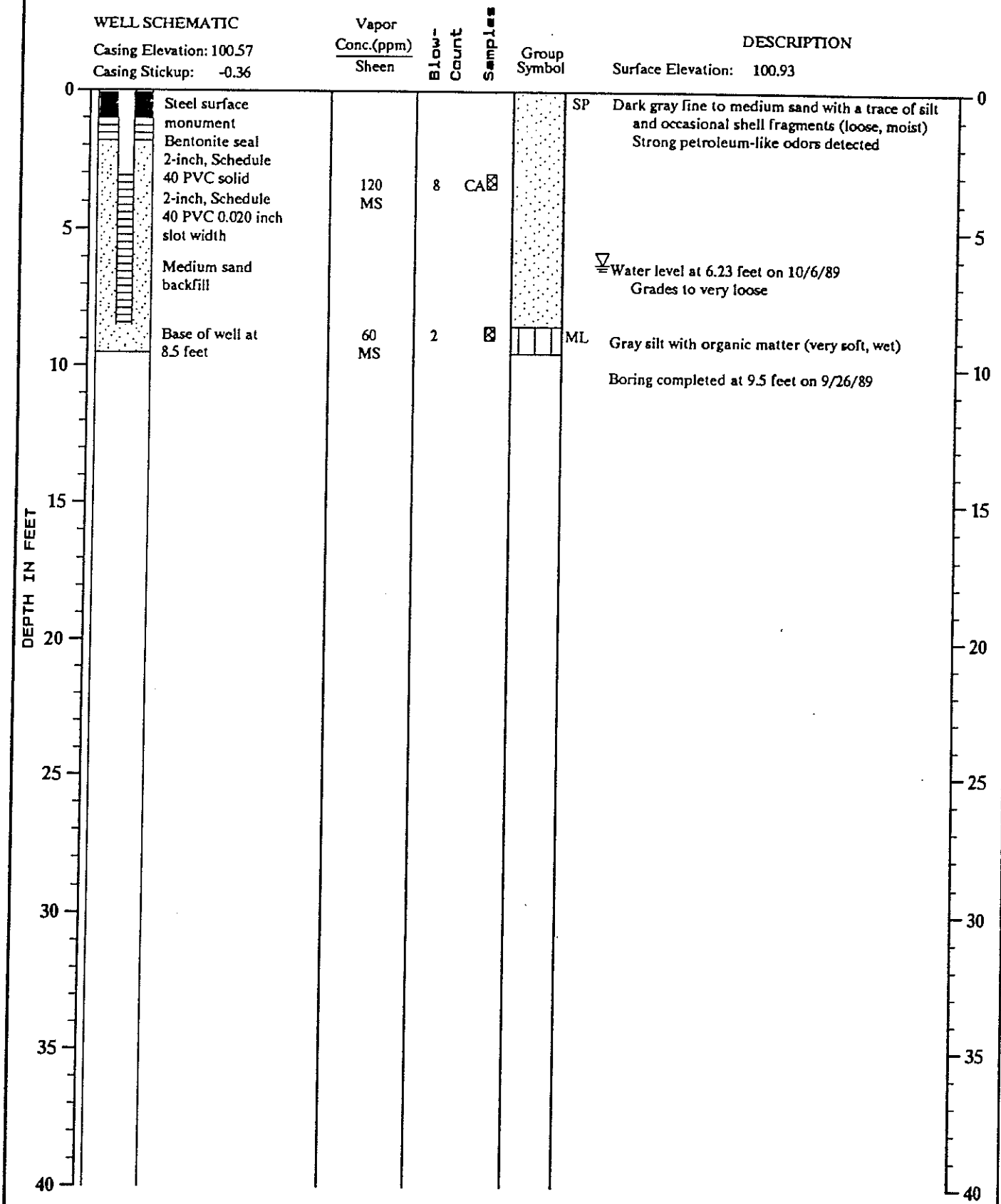
Note: See Figure A-2 for explanation symbols

Log of Monitor Well

Figure A-10

8372-046-B04 :REJ:CDO 10/27/89

MONITOR WELL NO. MW-16



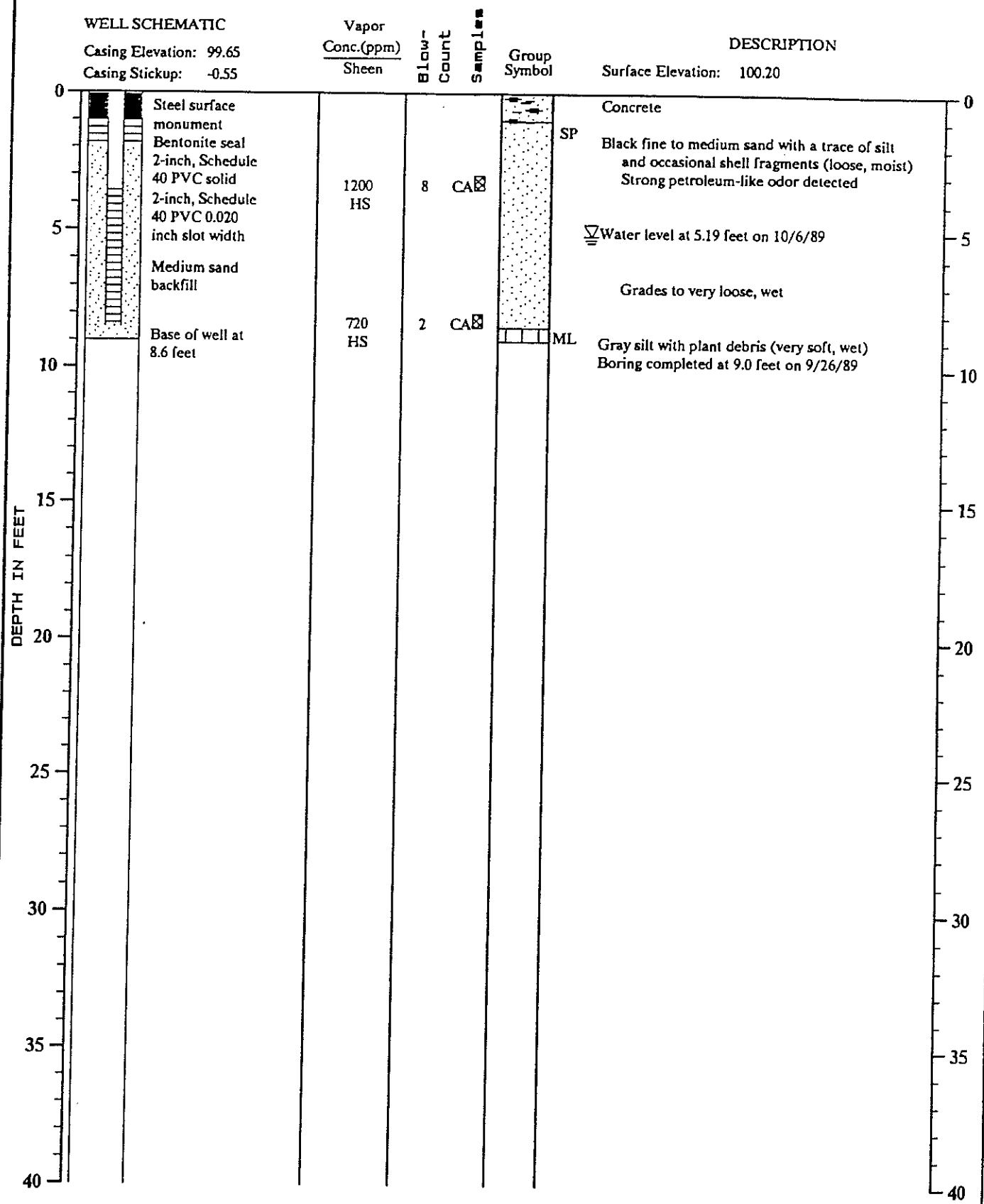
Note: See Figure A-2 for explanation symbols

Log of Monitor Well

Figure A-11

0372-046-B04 :REJ:CDO 10/27/89

MONITOR WELL NO. MW-17

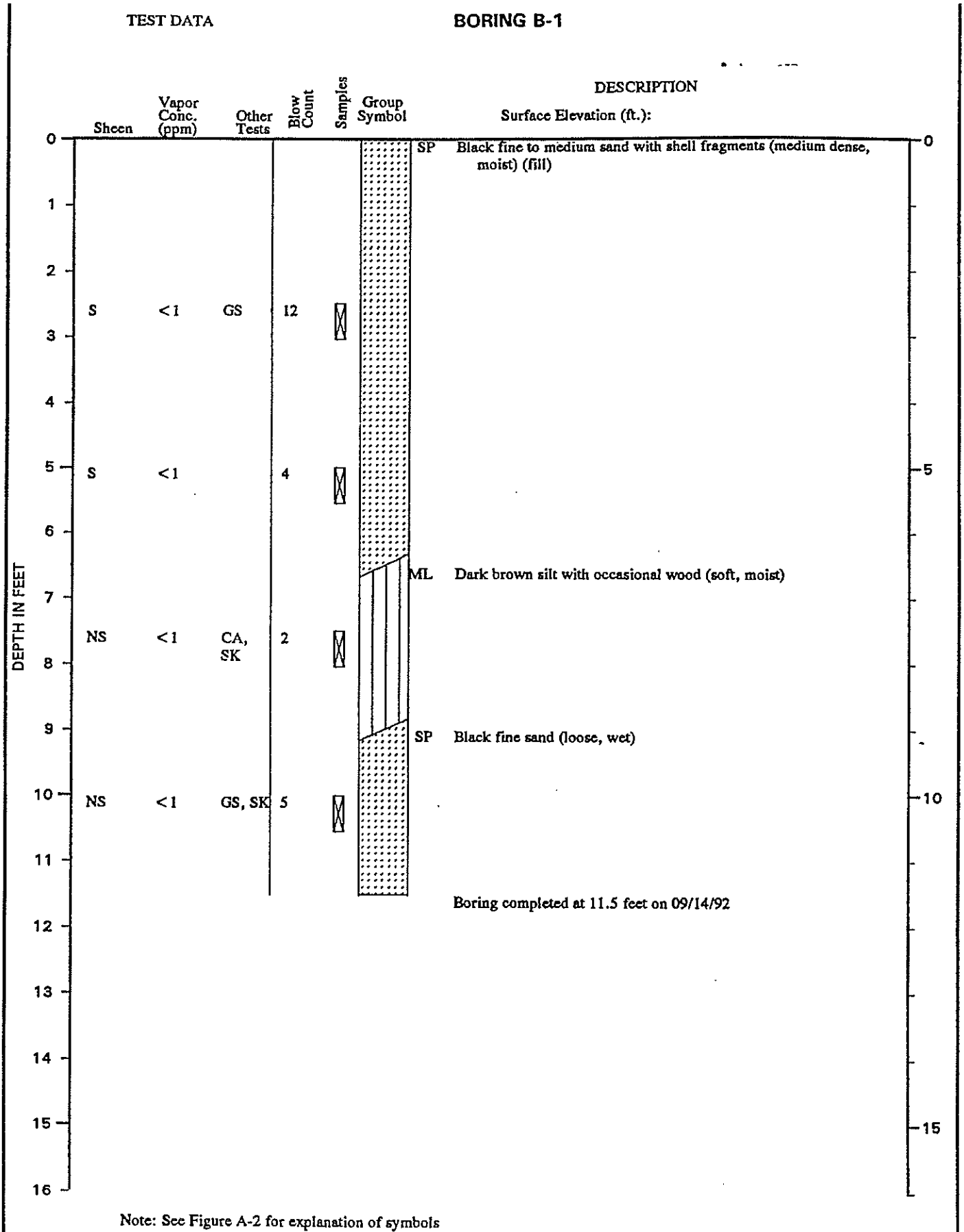


Note: See Figure A-2 for explanation symbols

Log of Monitor Well

Figure A-12

:REJ:COO 11/3/89
0372-046-B04



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF BORING

FIGURE A-12

:DDK:CMS 1/21/93

0372-099-R04

TEST DATA

BORING B-2

Depth (ft.)	Sheen	Vapor Conc. (ppm)	Other Tests	Blow Count	Samples	Group Symbol	DESCRIPTION (Surface Elevation (ft.):)
0						SP	Dark brown to black fine to medium sand (loose, moist) (fill)
2.5	S	250	GS, SK	5			
5	S	350		3			
6.5						ML	Dark brown silt with occasional wood (soft, moist)
7.5	NS	<1	CA, SK	2			
9						SP	Black fine sand with a trace of silt (very loose, wet)
10	NS	<1	GS, SK	3			
11.5							Boring completed at 11.5 feet on 09/14/92

DEPTH IN FEET

Note: See Figure A-2 for explanation of symbols

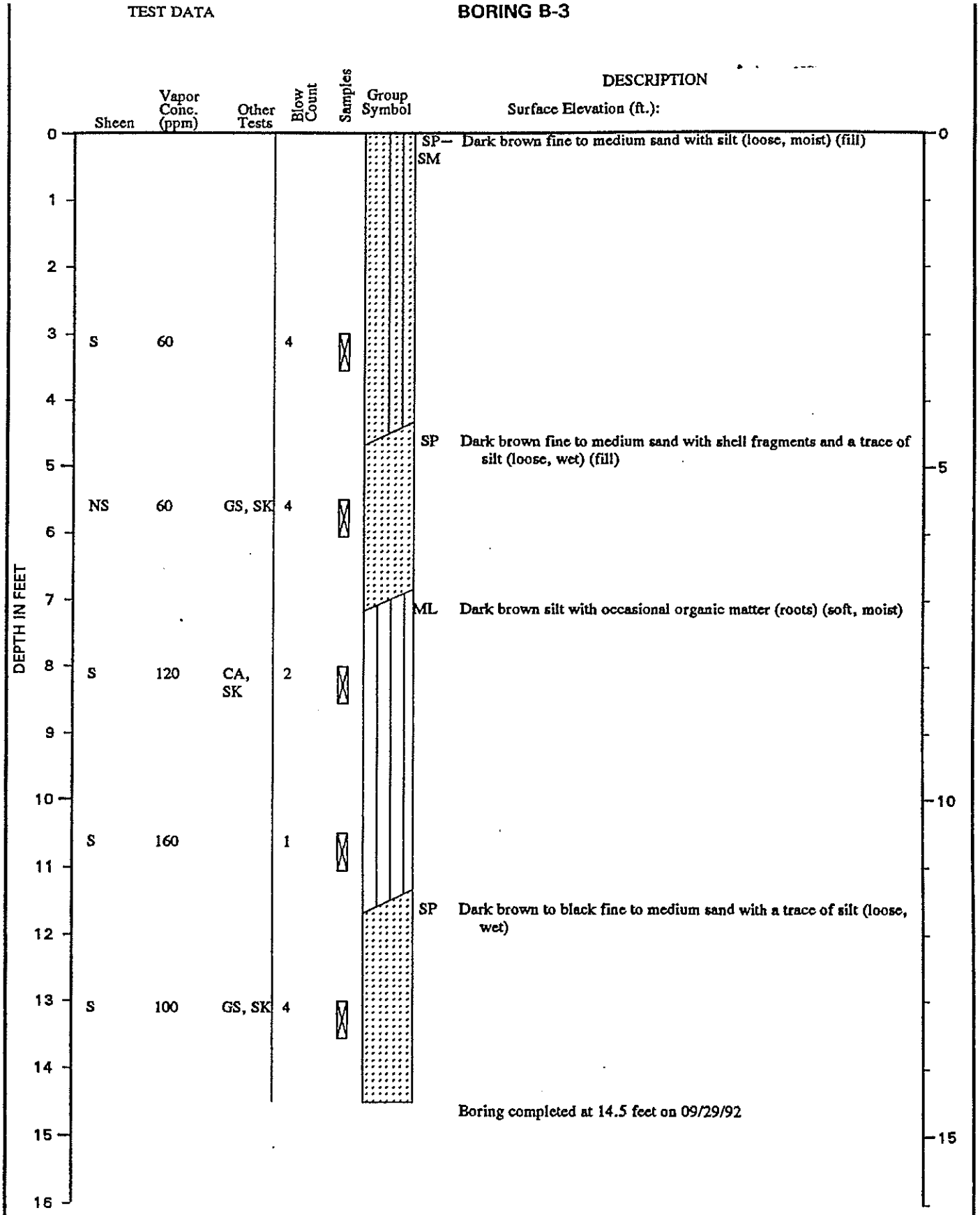
:DDK:CMS 1/21/93

0372-099-R04

Geo Engineers

LOG OF BORING

FIGURE A-13



Note: See Figure A-2 for explanation of symbols

:DDK:CMS 1/21/93

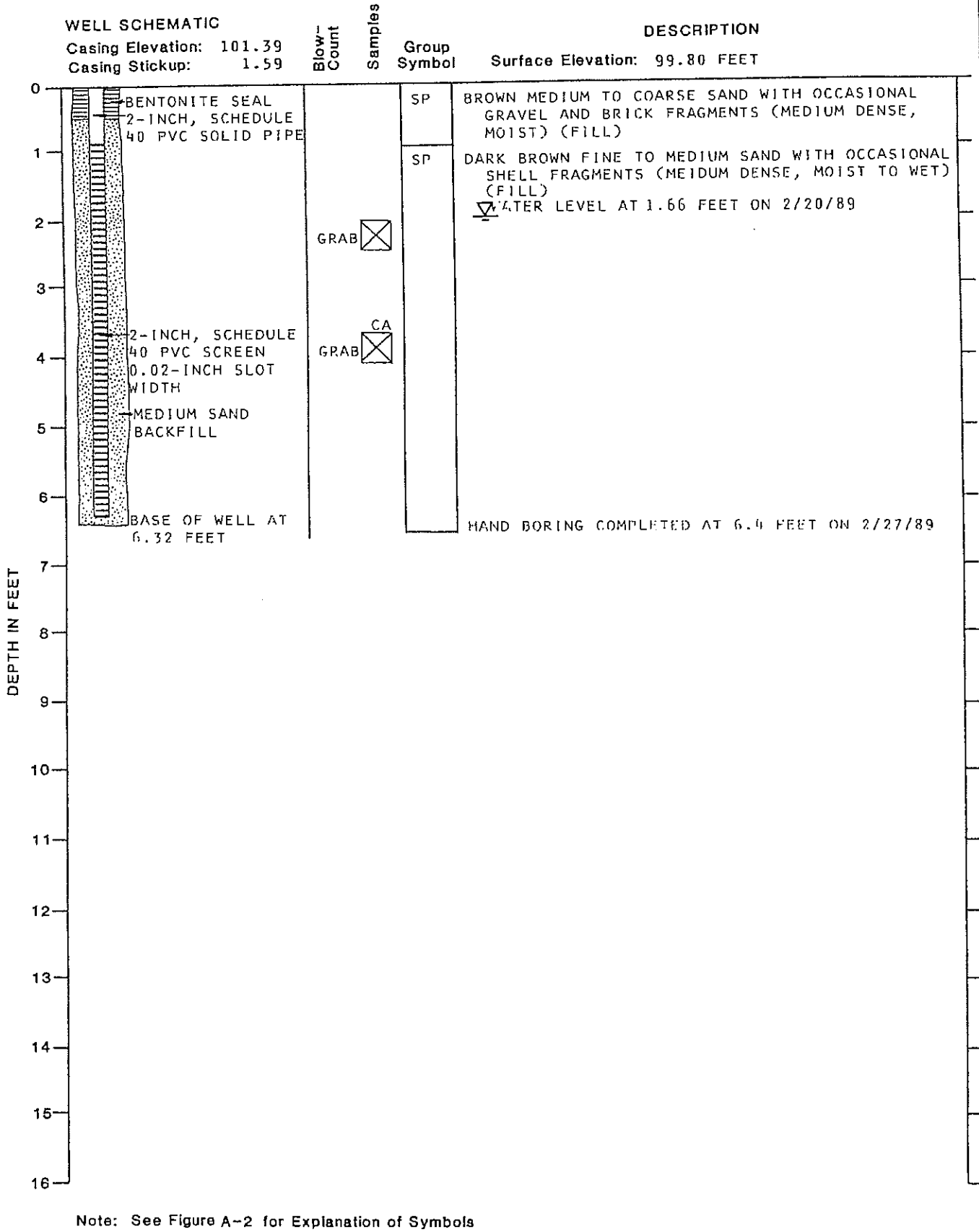
0372-099-R04

Geo Engineers

LOG OF BORING

FIGURE A-14

HAND BORING HB-1



Note: See Figure A-2 for Explanation of Symbols

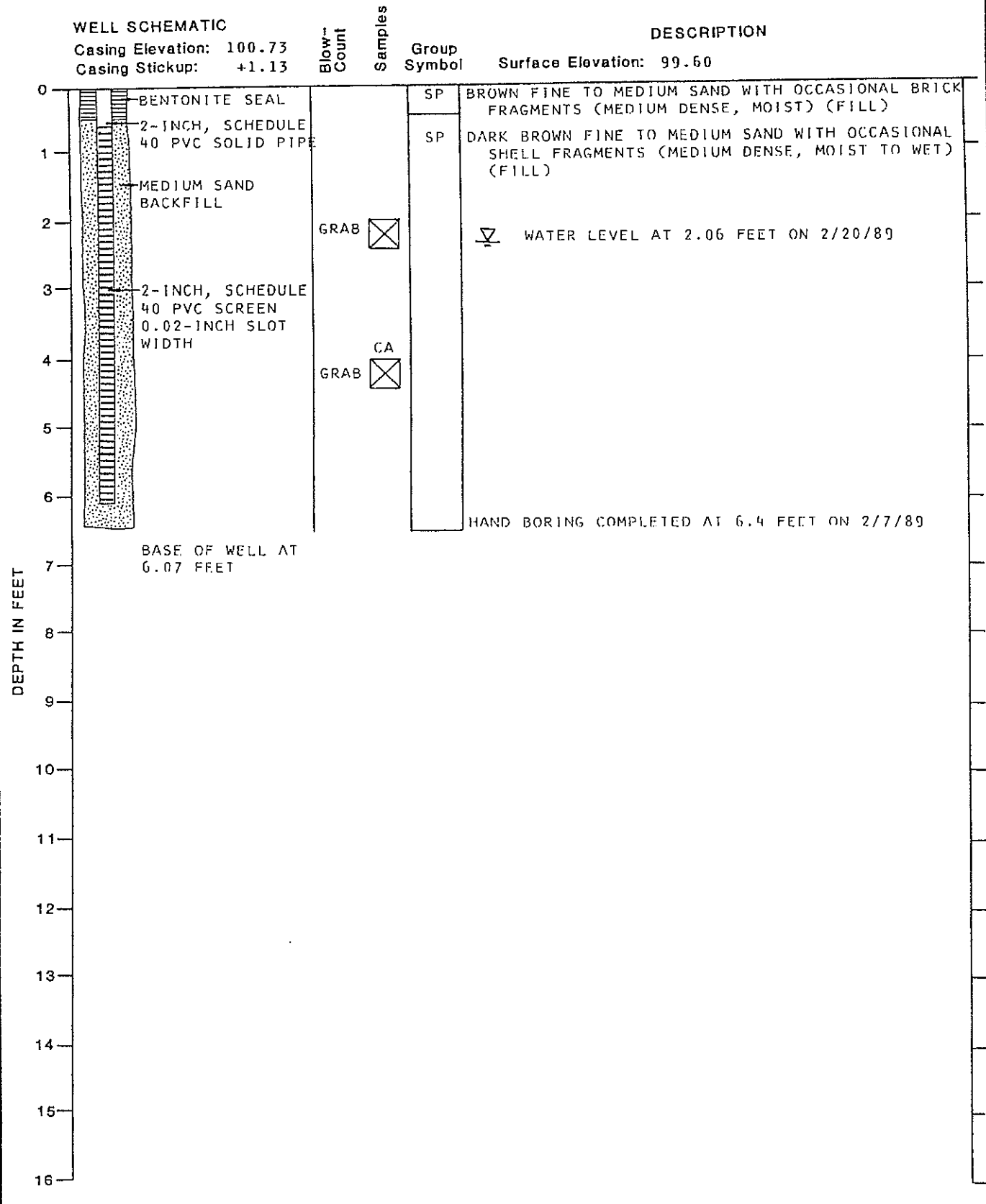
GeoEngineers

LOG OF HAND BORING

FIGURE A-15

0372-38-4 JF:DK 3/10/89

HAND BORING HB-2



Note: See Figure A-2 for Explanation of Symbols

0372-38-4 JF:DK 3/10/89

Geo Engineers

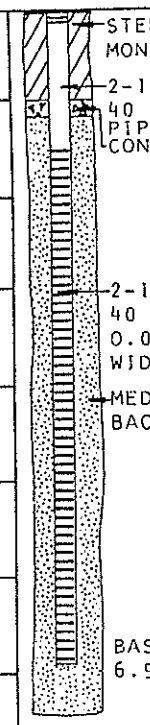
LOG OF HAND BORING

FIGURE A-16

HAND BORING HB-3

WELL SCHEMATIC
Casing Elevation: 100.31
Casing Stickup: -0.08

Blow-Count | Samples | Group Symbol | DESCRIPTION
Surface Elevation: 100.39



DEPTH IN FEET: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

GRAB

GRAB CA

SP — BROWN FINE TO MEDIUM SAND WITH OCCASIONAL BRICK FRAGMENTS (MEDIUM DENSE, MOIST) (FILL)

SP — DARK GRAYISH-BROWN FINE TO MEDIUM SAND (MEDIUM DENSE, MOIST TO WET) (FILL)

MODERATE TO STRONG PETROLEUM ODOR FROM 1.6 TO 7.0 FEET

▽ WATER LEVEL AT 3.02 FEET ON 2/20/89

HAND BORING COMPLETED AT 7.4 FEET ON 2/7/89

Note: See Figure A-2 for Explanation of Symbols

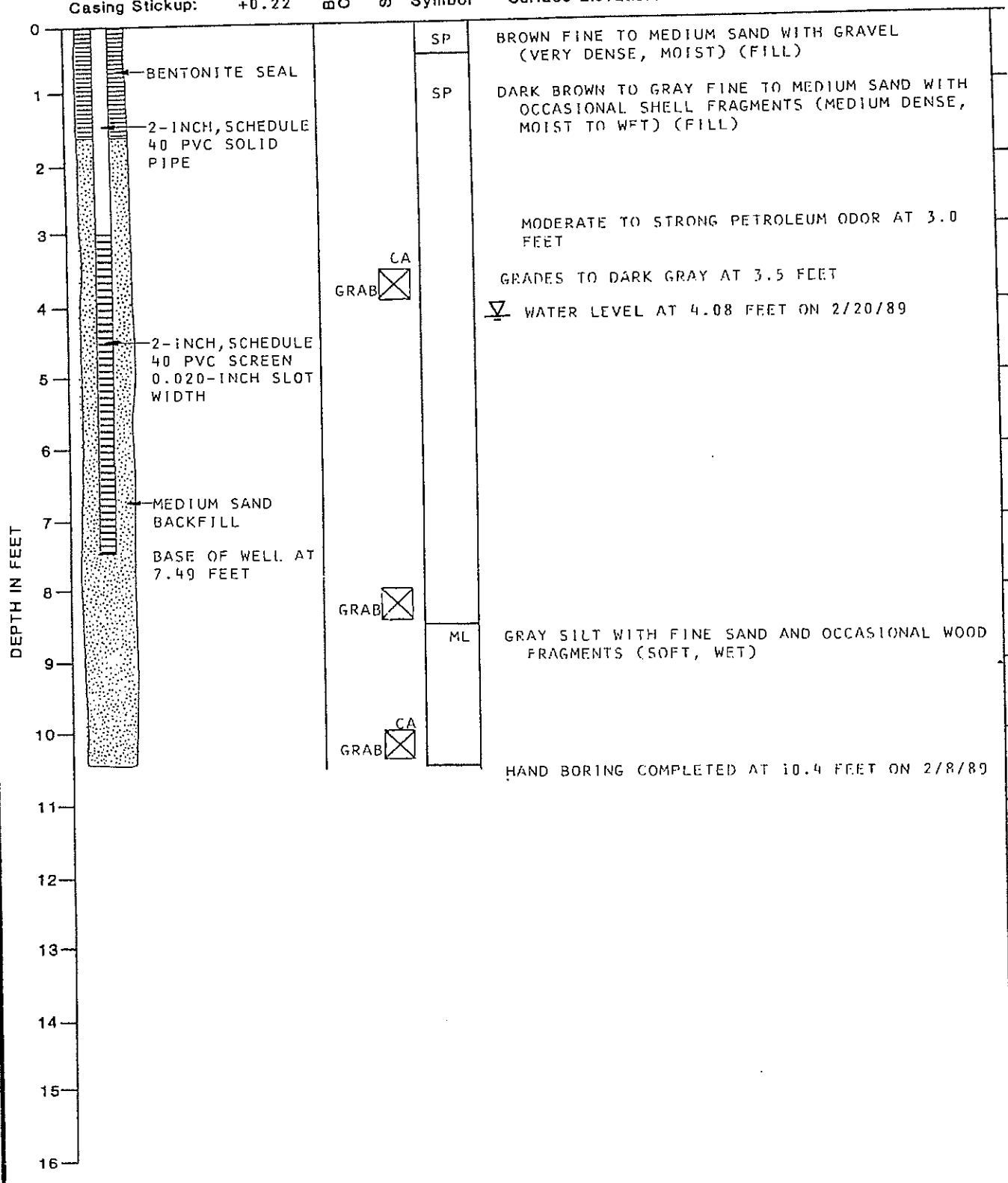
0372-38-4 JF:DK 3/10/89

Geo Engineers

LOG OF HAND BORING

FIGURE A-17

HAND BORING HB-4



Note: See Figure A-2 for Explanation of Symbols

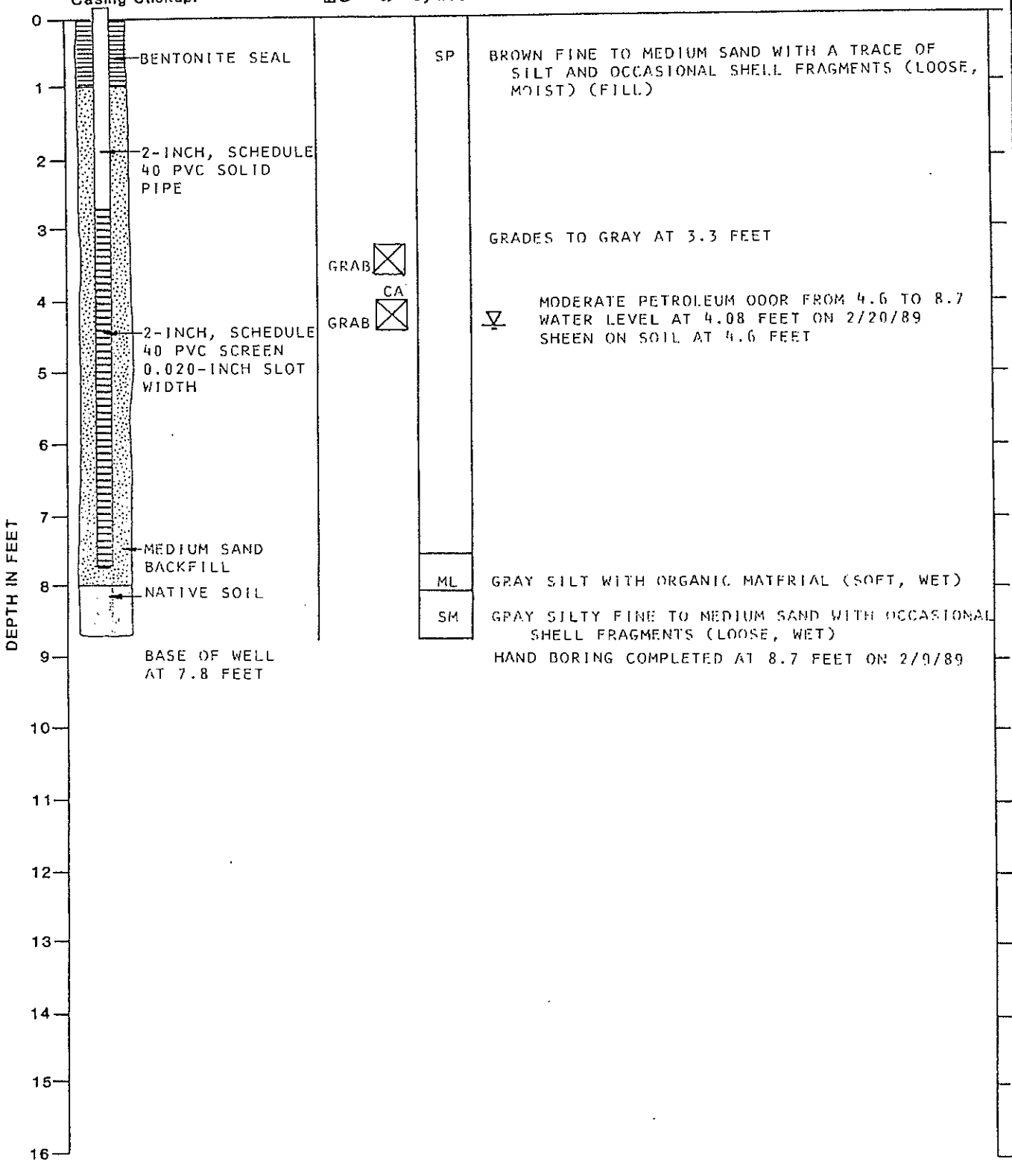
0372-38-4 JF:DK 3/10/89

Geo Engineers

LOG OF HAND BORING

FIGURE A-18

HAND BORING HB-5



Note: See Figure A-2 for Explanation of Symbols

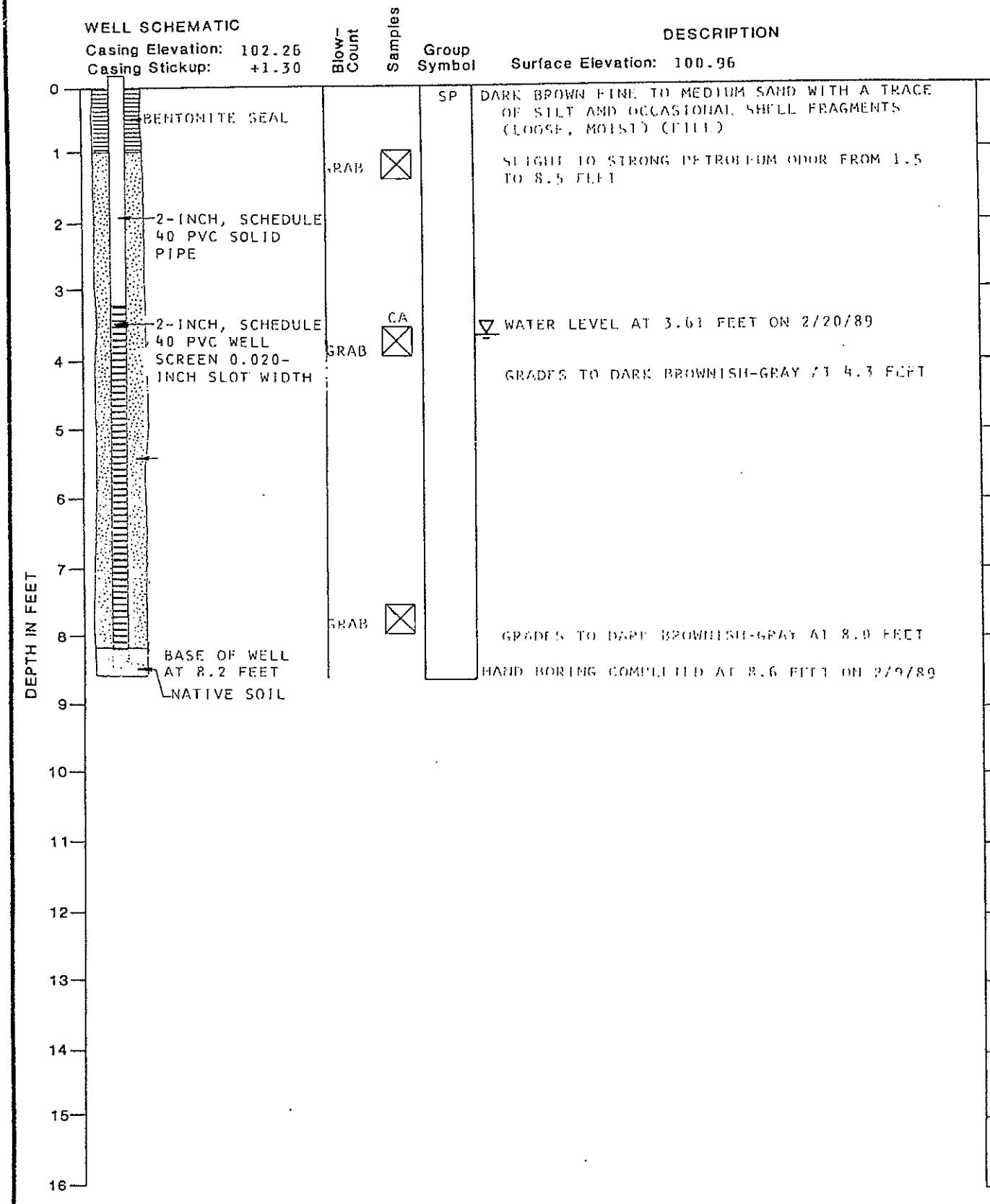
Geo Engineers

LOG OF HAND BORING

FIGURE A-19

0372-38-4 JF:DK 3/10/89

HAND BORING HB-6



Note: See Figure A-2 for Explanation of Symbols

3072-38-4 JF:DK 3/10/89

GeoEngineers

LOG OF HAND BORING

FIGURE A-20

HAND BORING HB-7

WELL SCHEMATIC
Casing Elevation: 103.51
Casing Stickup: 3.95

Blow-Count | Samples | Group Symbol | DESCRIPTION
Surface Elevation: 99.56

DEPTH IN FEET

0 — SP — DARK GRAYISH-BROWN FINE TO MEDIUM SAND WITH OCCASIONAL GRAVEL (MEDIUM DENSE, MOIST) (FILL)

1 — BENTONITE SEAL
2-INCH, SCHEDULE 40 PVC SOLID PIPE

2 — GRAB

▽ WATER LEVEL AT 1.65 FEET ON 2/20/89
SLIGHT PETROLEUM ODOR AT 2.0 FEET

3 — GRADES TO LOOSE AT 3.0 FEET

CA
4 — GRAB — 2-INCH, SCHEDULE WELL SCREEN 0.020-INCH SLOT WIDTH

MODERATE TO STRONG PETROLEUM ODOR AND SHEEN SOIL AT 3.5 FEET

5

6 — MEDIUM SAND BACKFILL
BASE OF WELL AT 6.25 FEET BELOW GRADE

7 — GRAB — ML — GRAY SILT WITH FINE SAND (MEDIUM STIFF, WET)

8 — HAND BORING COMPLETED AT 7.8 FEET ON 2/20/89

9

10

11

12

13

14

15

16

Note: See Figure A-2 for Explanation of Symbols

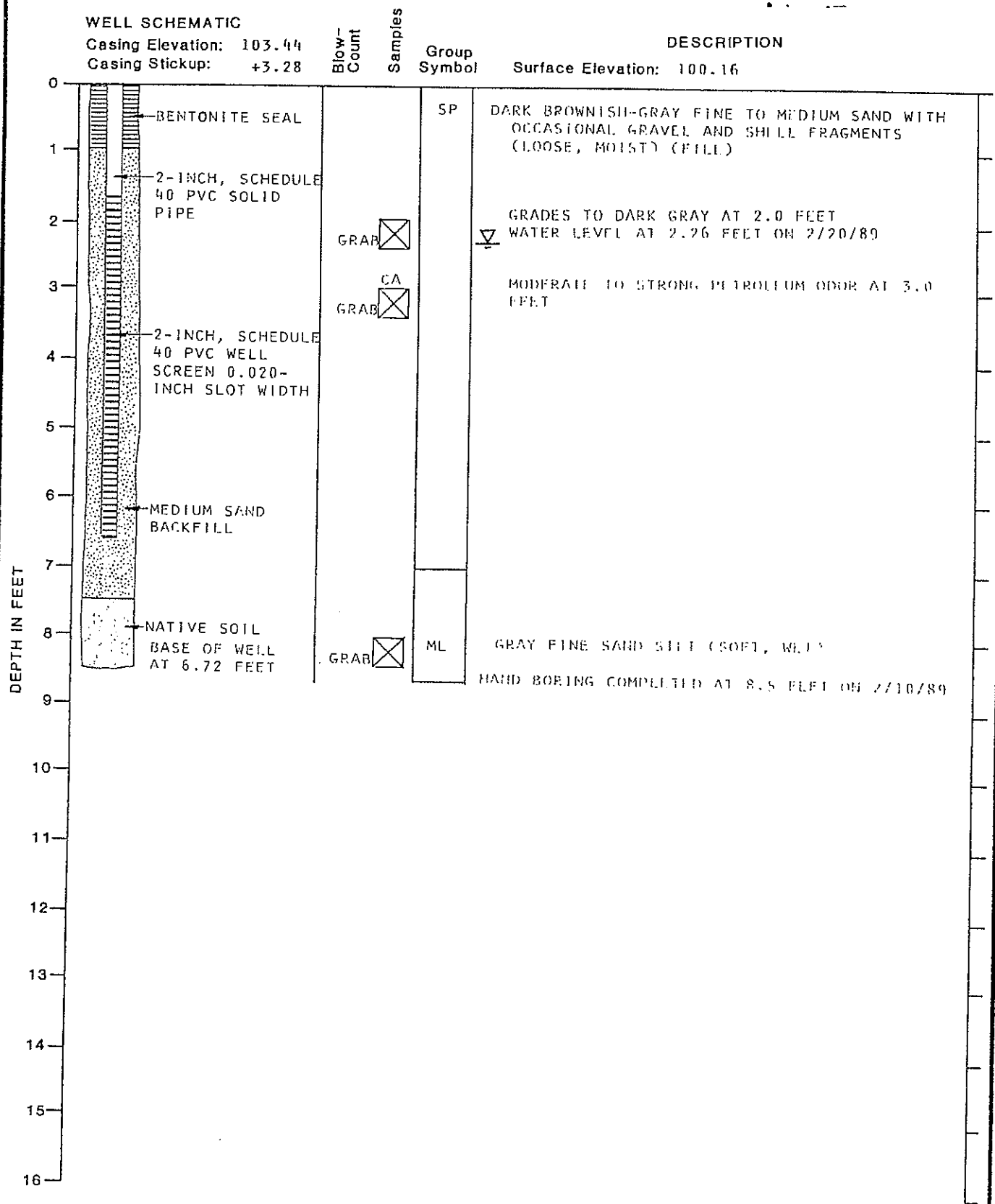
0372-38-4 JF:DK 3/10/89

Geo Engineers

LOG OF HAND BORING

FIGURE A-21

HAND BORING HB-8



Note: See Figure A-2 for Explanation of Symbols

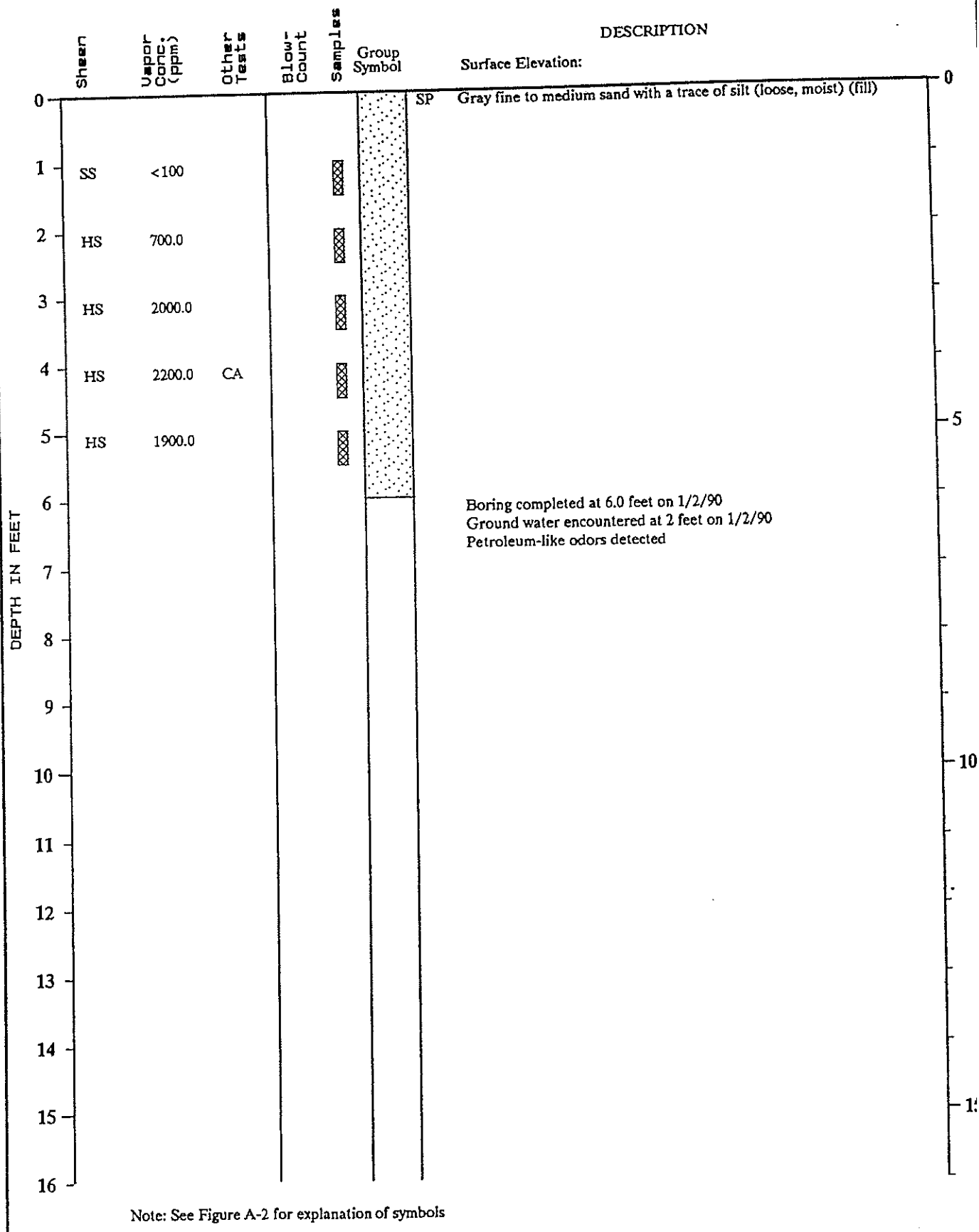
GeoEngineers

LOG OF HAND BORING

FIGURE A-22

0572-38-4 JF:DK 3/10/89

HAND BORING HH-1



Note: See Figure A-2 for explanation of symbols

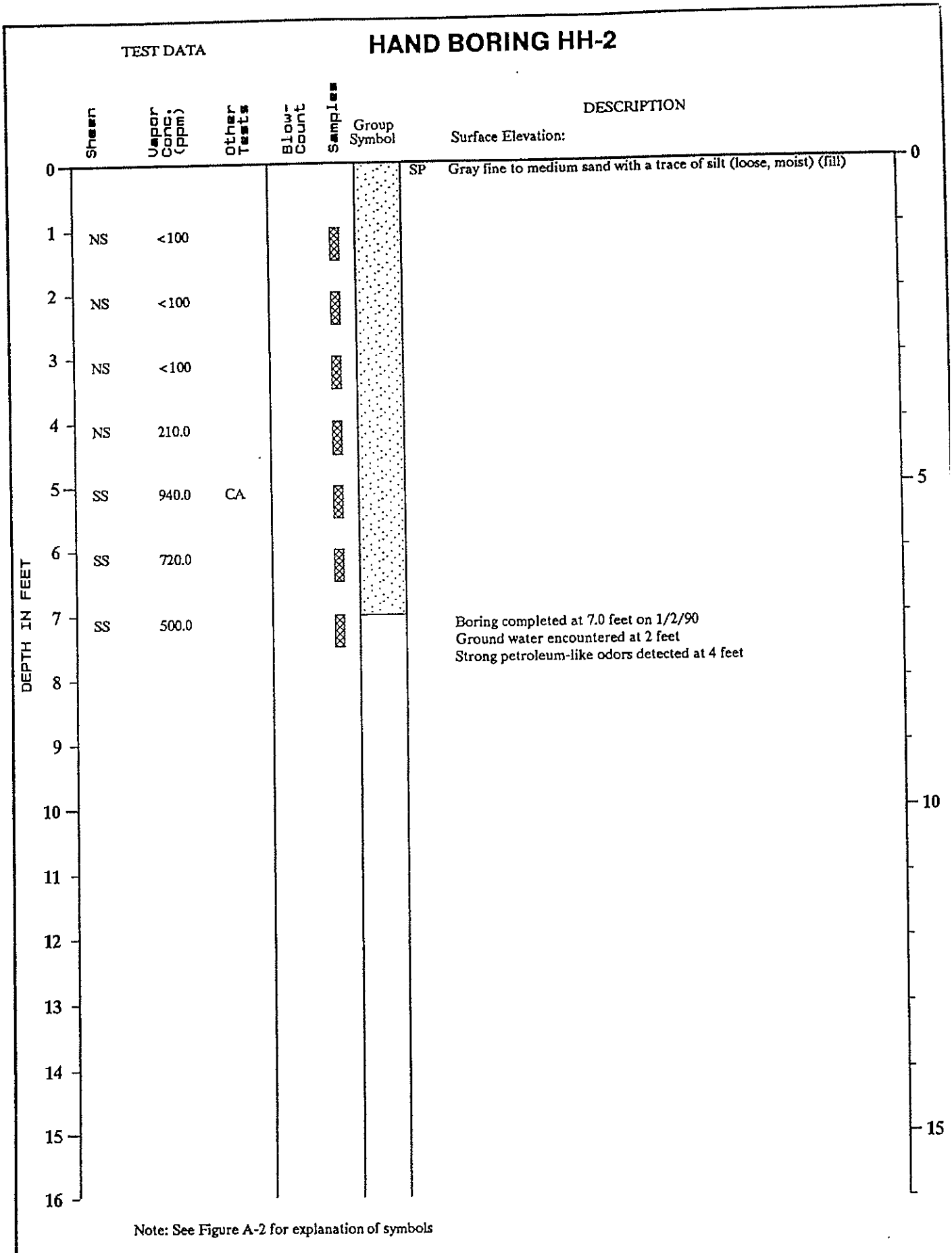
Log of Hand Boring

Figure A- 3

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-2



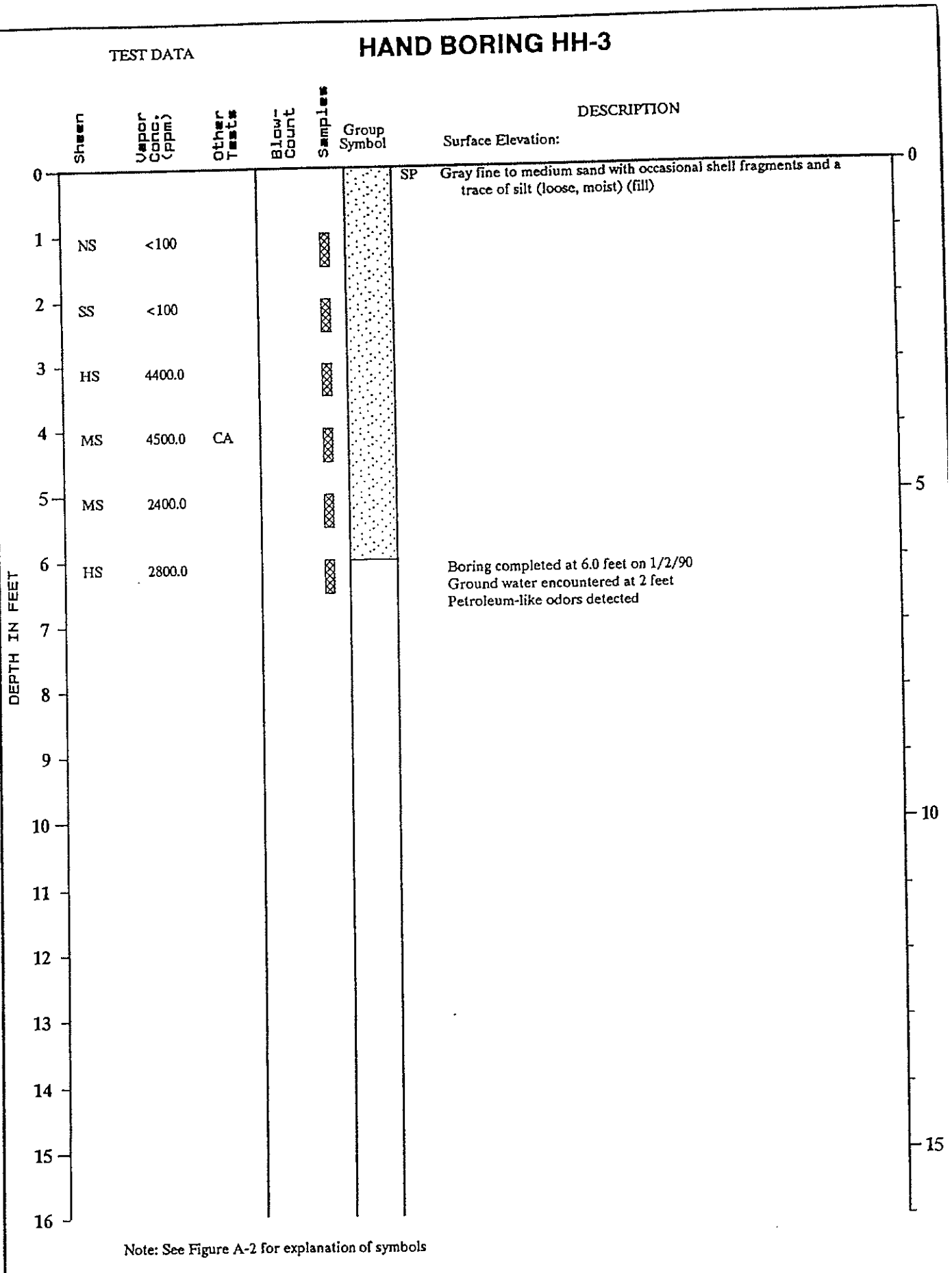
Note: See Figure A-2 for explanation of symbols

Log of Hand Boring

Figure A- 4

0372-046-B04 :NLP:REJ:CDG 4/9/90

HAND BORING HH-3



Note: See Figure A-2 for explanation of symbols

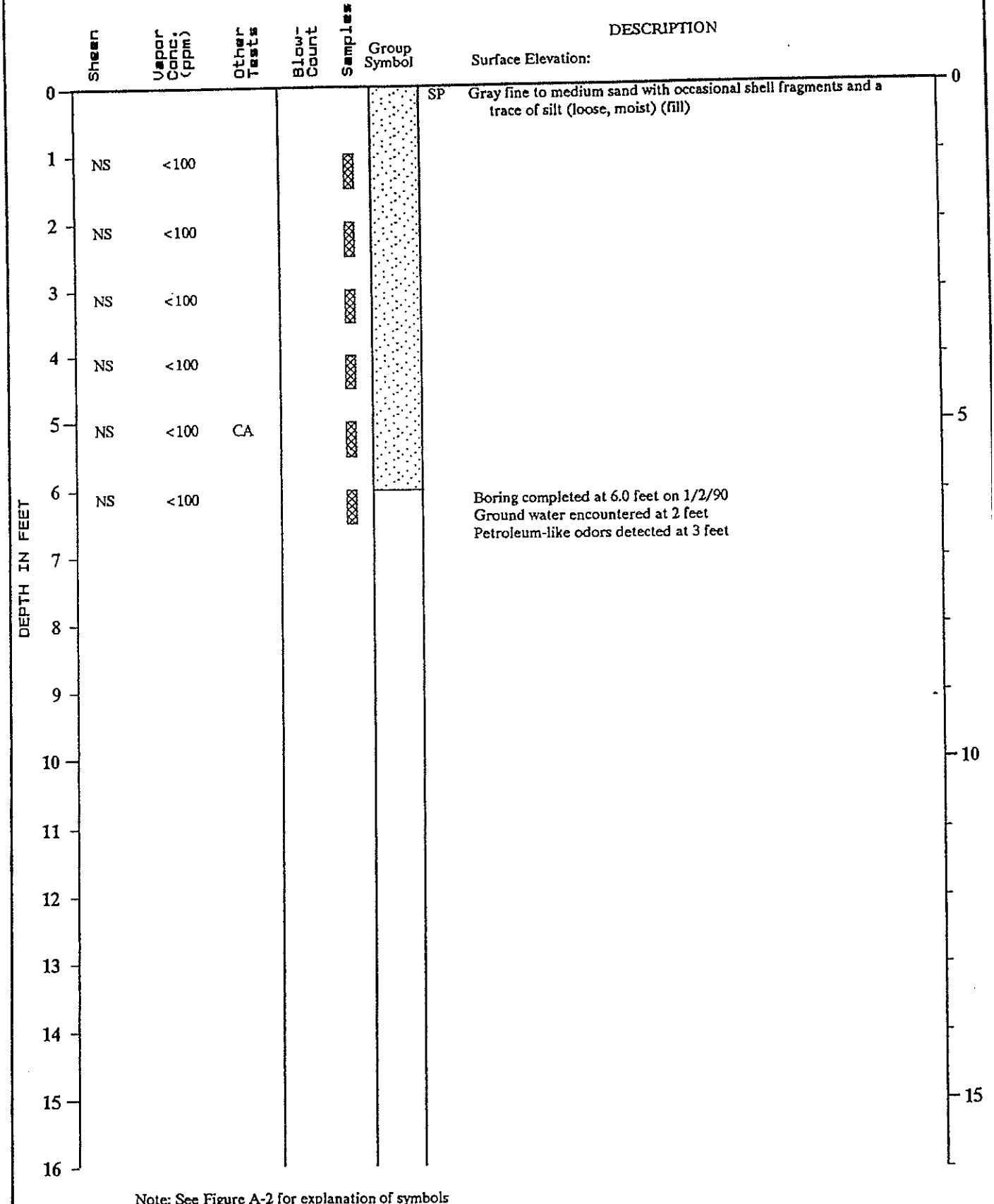
Log of Hand Boring

Figure A-5

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-4



Note: See Figure A-2 for explanation of symbols

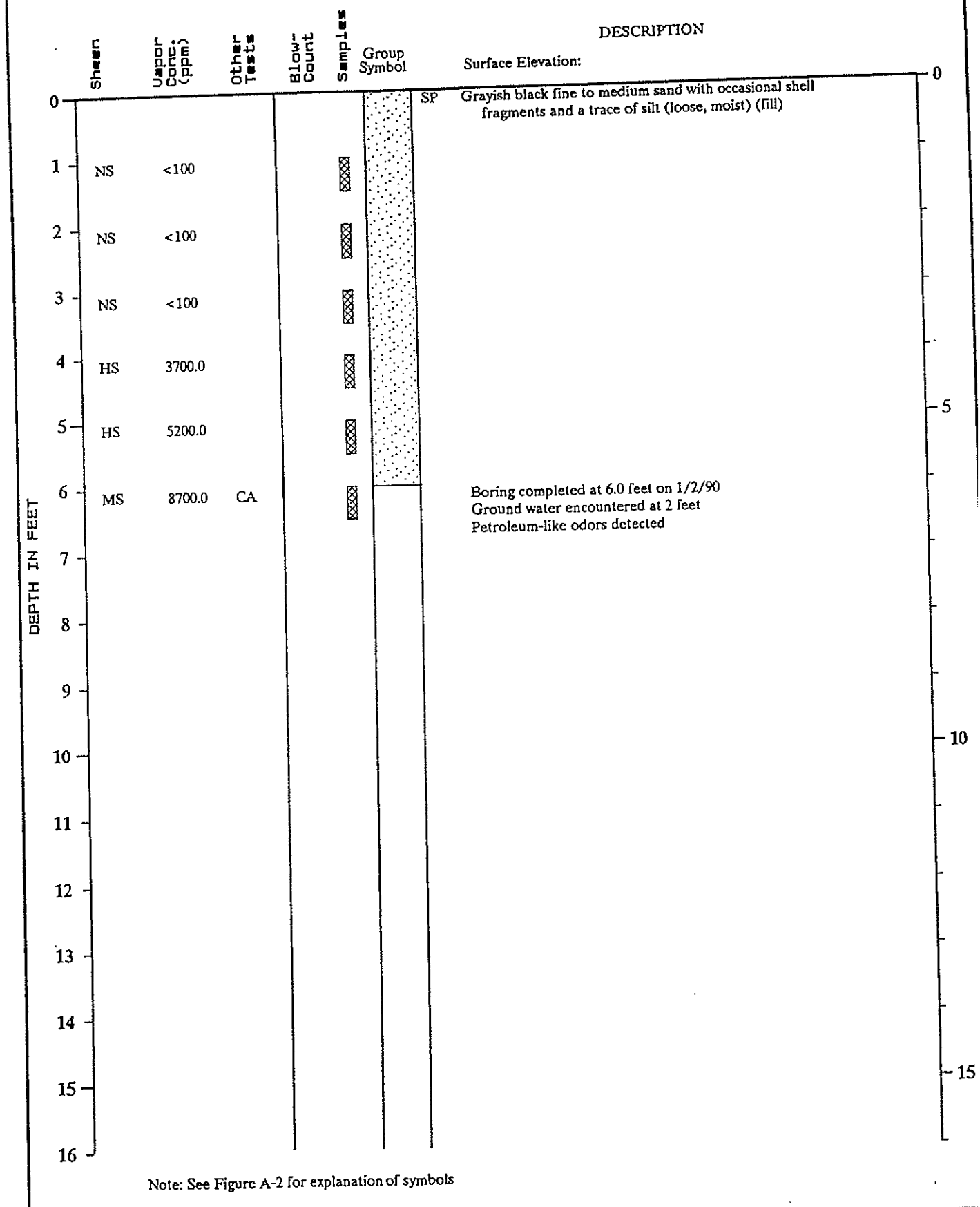
Log of Hand Boring

Figure A-6

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-5



Note: See Figure A-2 for explanation of symbols

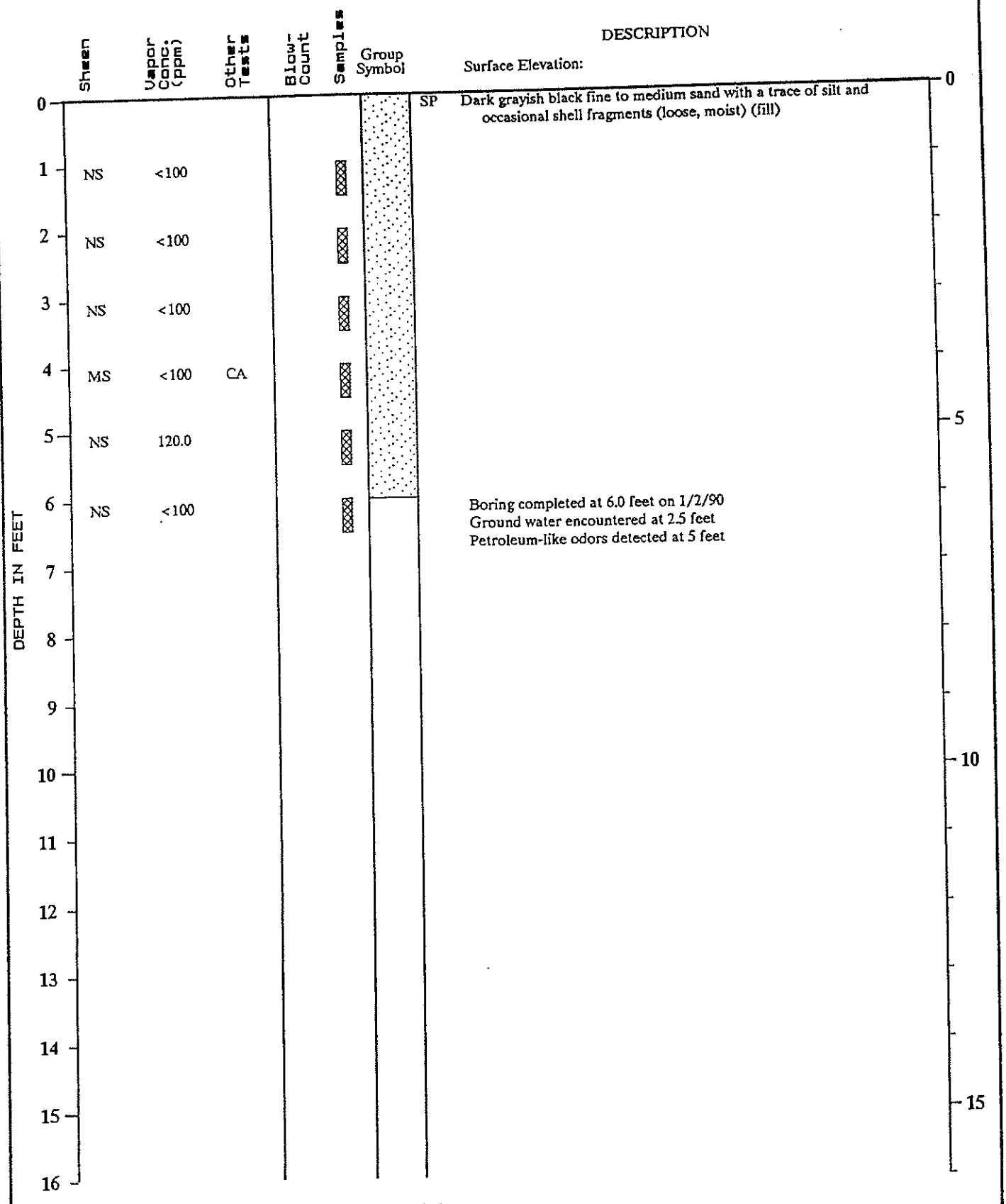
Log of Hand Boring

Figure A-7

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-6



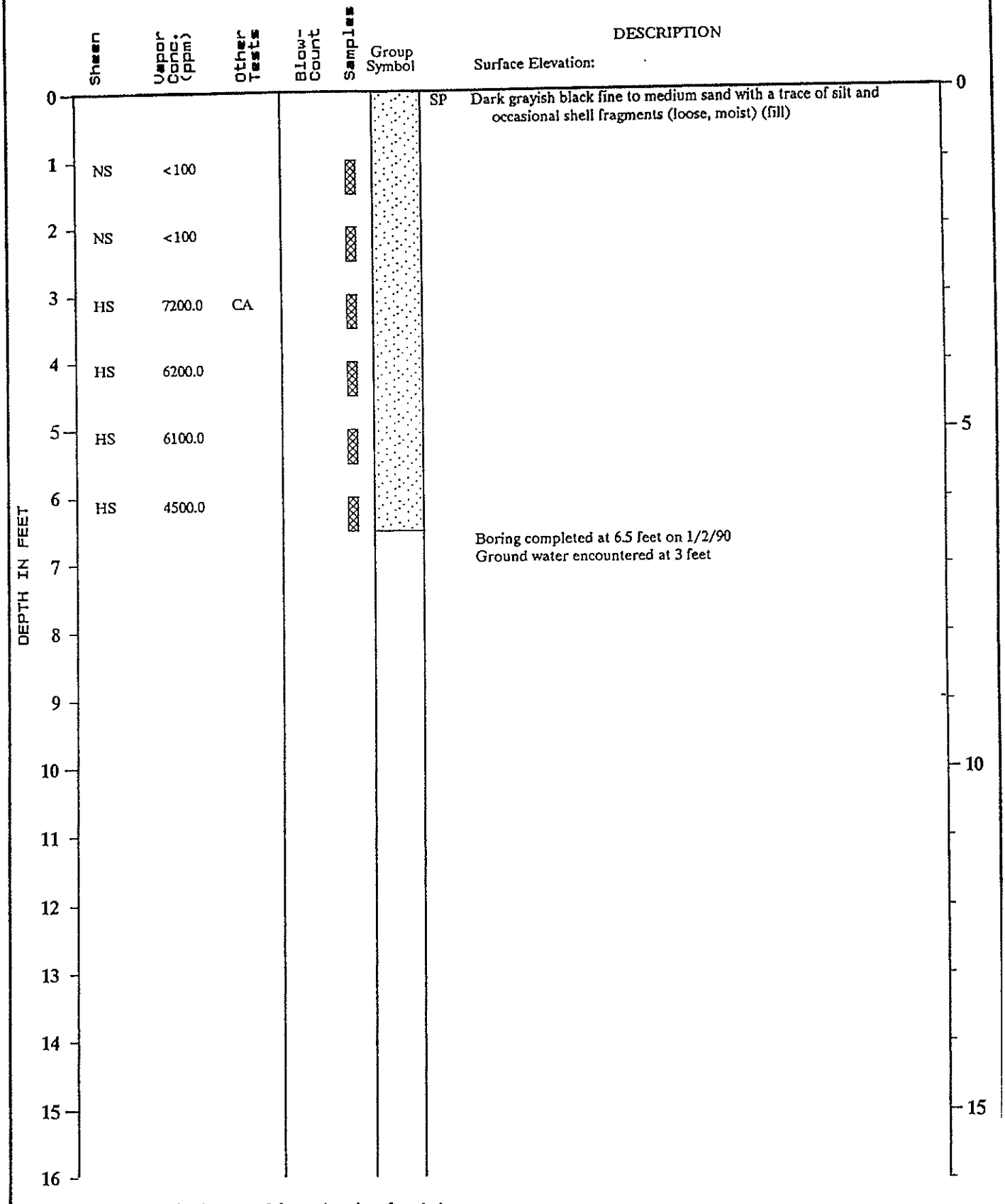
Note: See Figure A-2 for explanation of symbols

Log of Hand Boring

Figure A-8

:NLP:REJ:CDG 4/9/90
8372-046-B04

HAND BORING HH-7



Note: See Figure A-2 for explanation of symbols

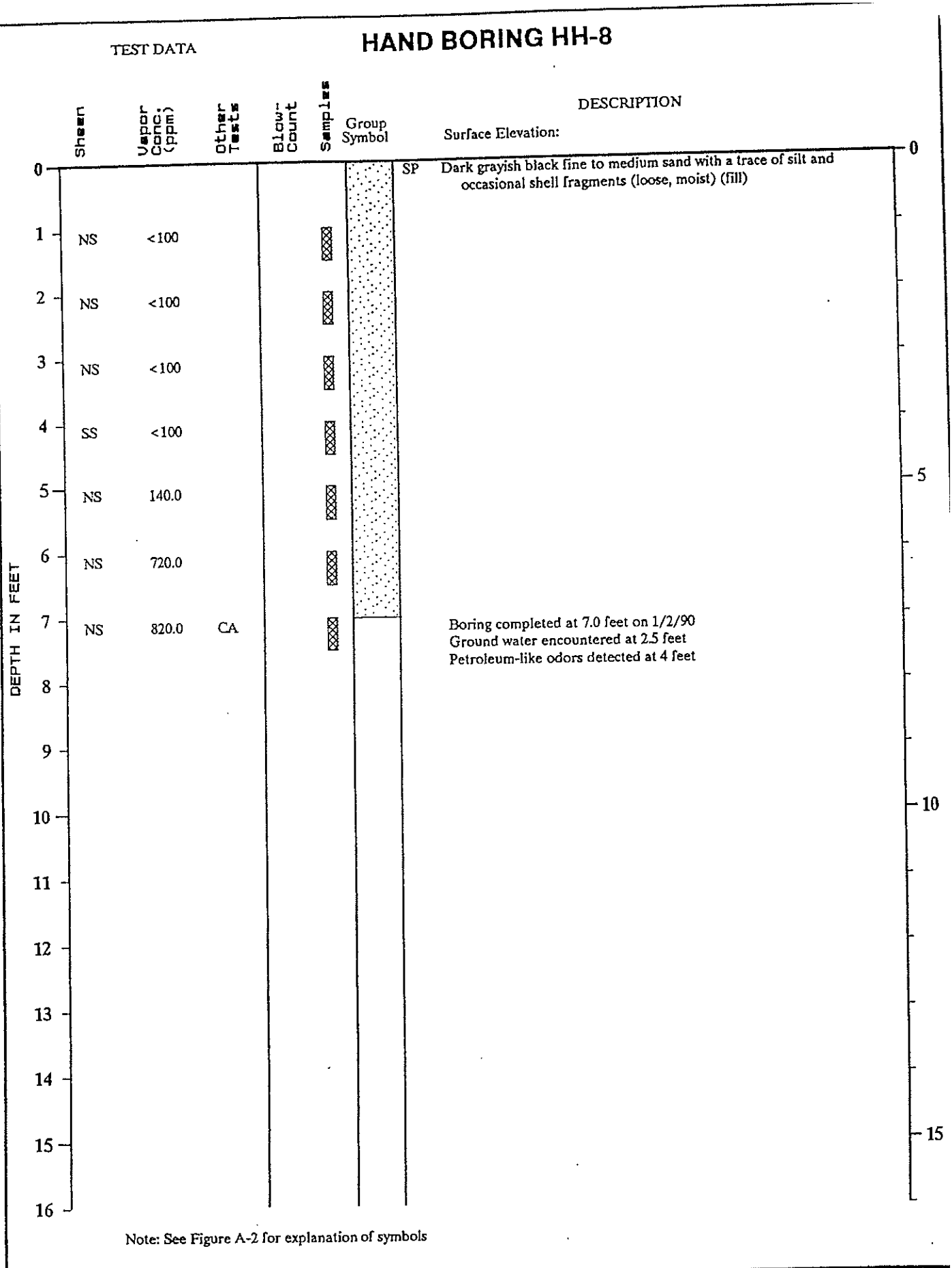
Log of Hand Boring

Figure A-9

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-8



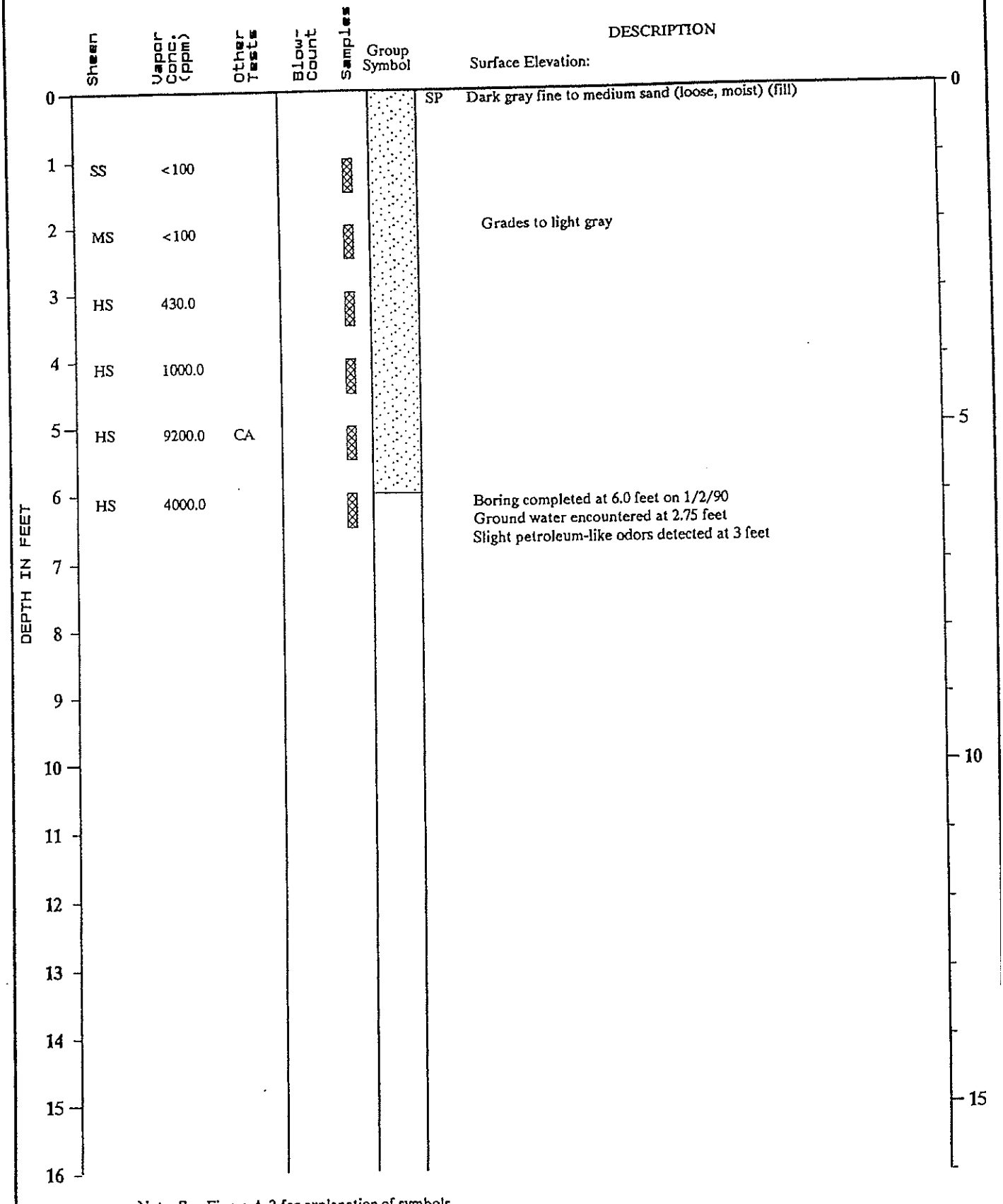
Note: See Figure A-2 for explanation of symbols

Log of Hand Boring

Figure A-10

0372-046-B04 :NLP:REJ:CDG 4/9/90

HAND BORING HH-9



Note: See Figure A-2 for explanation of symbols

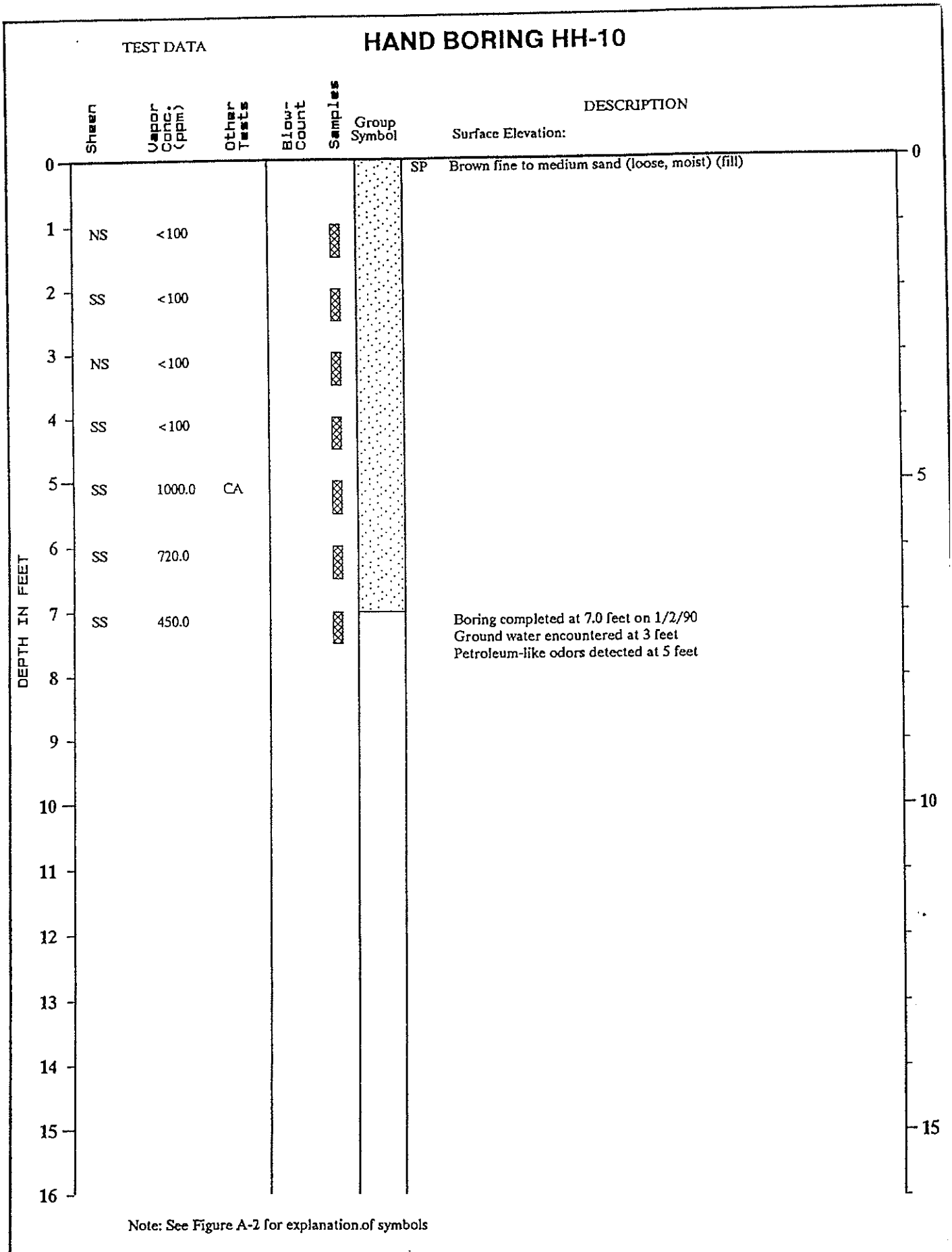
Log of Hand Boring

Figure A-11

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-10



Note: See Figure A-2 for explanation of symbols

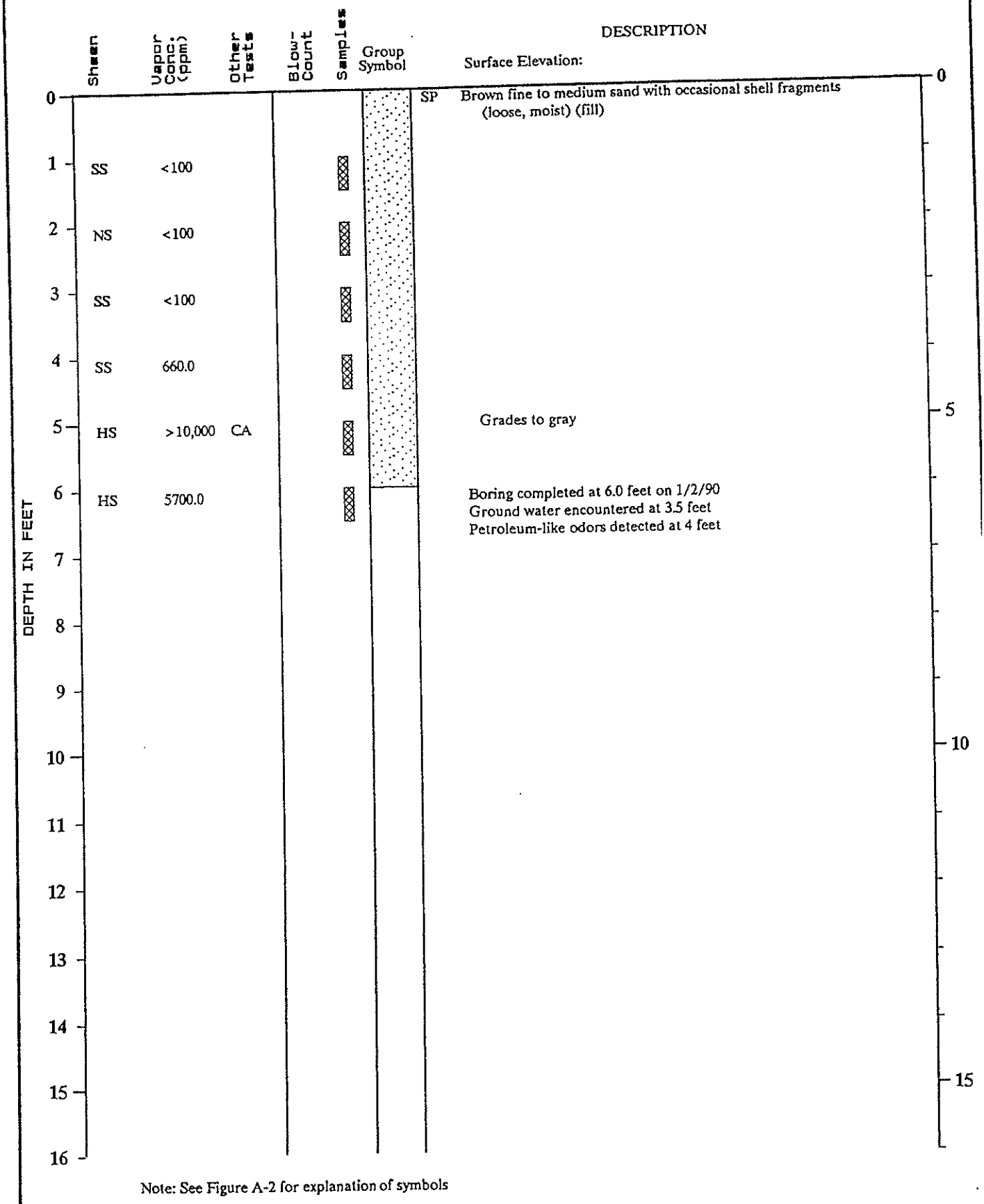
Log of Hand Boring

Figure A-12

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-11



Note: See Figure A-2 for explanation of symbols

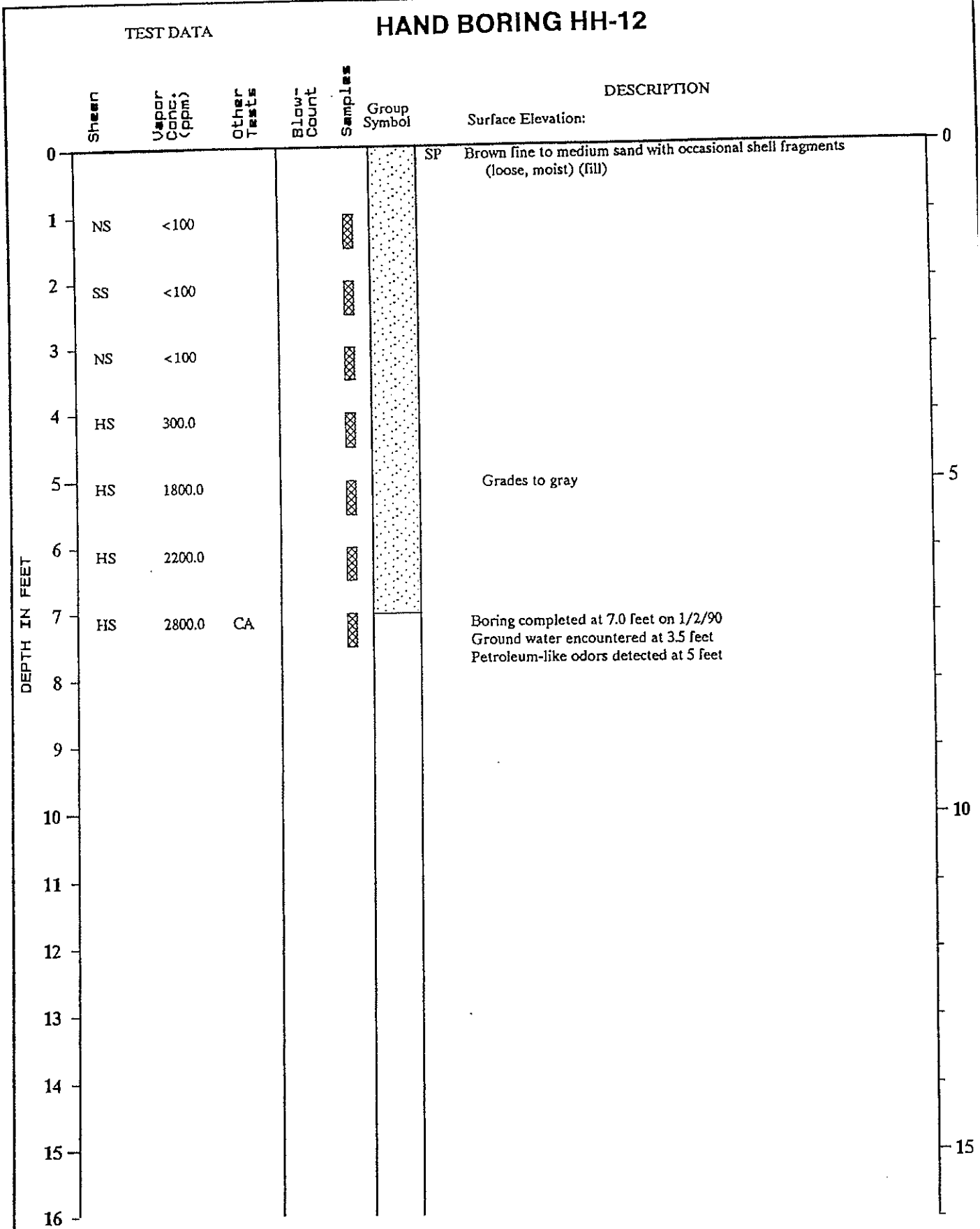
Log of Hand Boring

Figure A-13

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-12



Note: See Figure A-2 for explanation of symbols

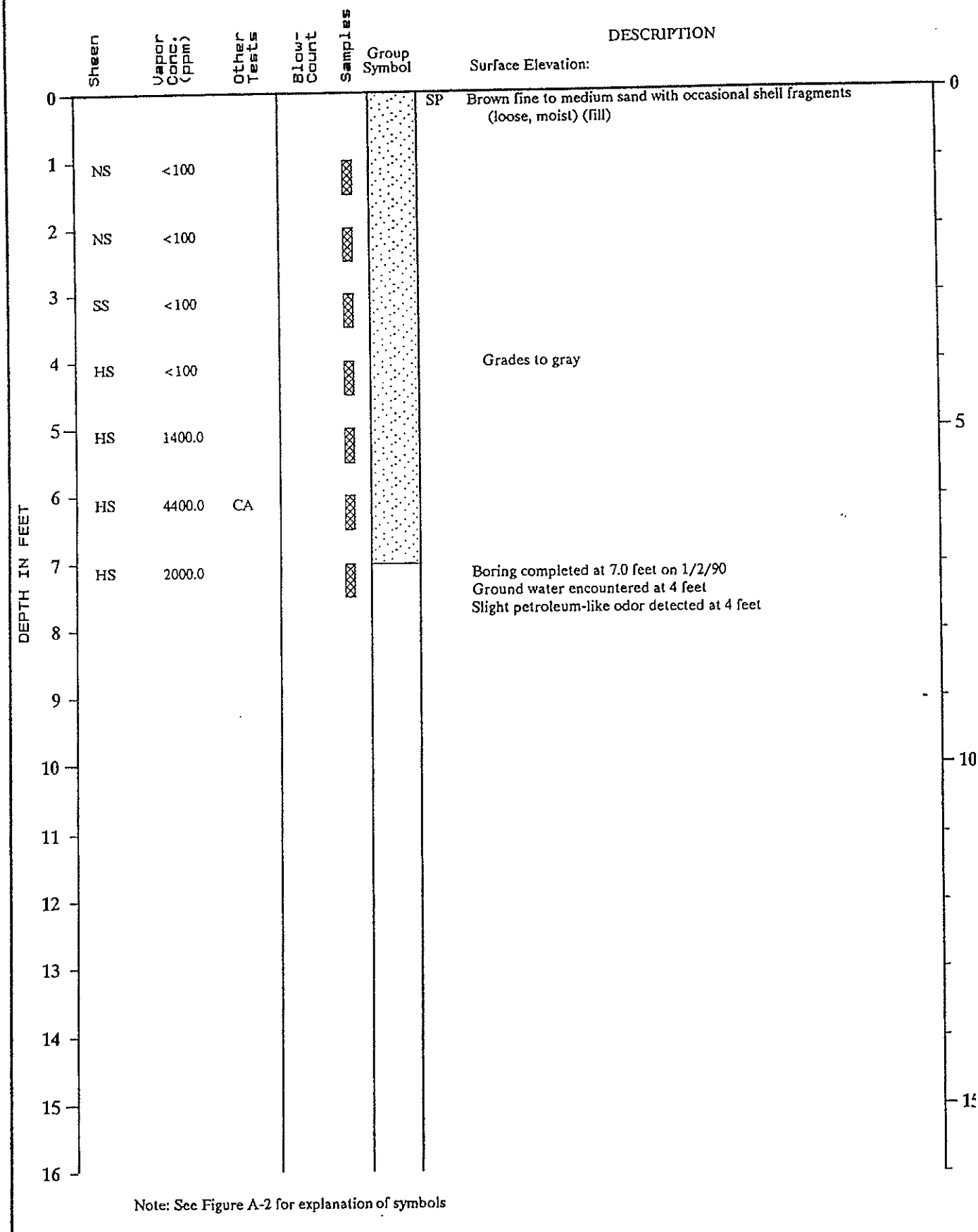
Log of Hand Boring

Figure A-14

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-13



Note: See Figure A-2 for explanation of symbols

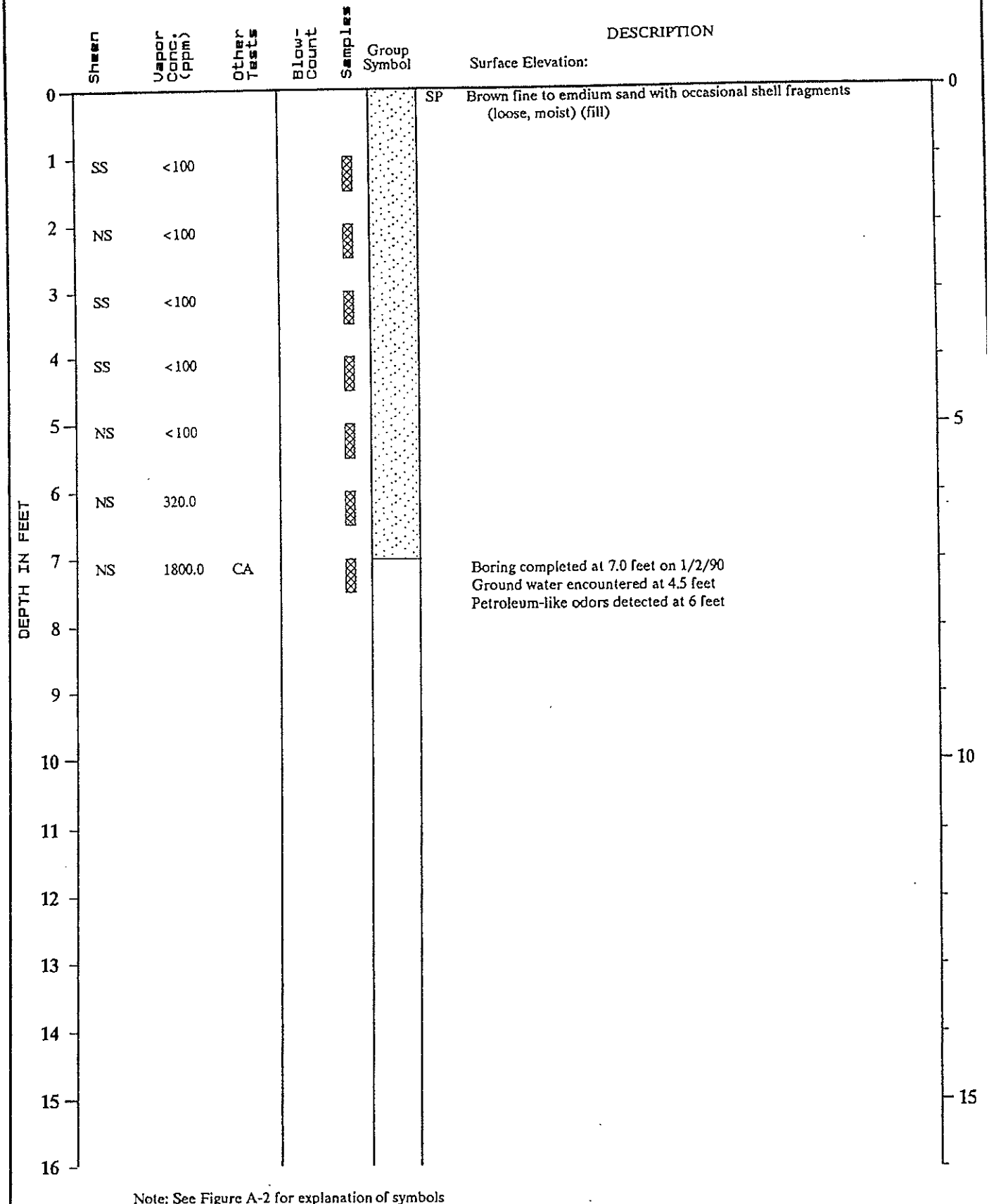
Log of Hand Boring

Figure A-15

:NLP:REJ:CDG 4/9/90

0372-046-B04

HAND BORING HH-14



Note: See Figure A-2 for explanation of symbols

Log of Hand Boring

Figure A-16

:NLP:REJ:CDG 4/9/90
0372-046-B04

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 1
0.0 - 2.0	SP	Dark brown fine to medium sand with a trace of silt and abundant shell fragments (loose, moist) (fill)
2.0 - 4.0	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
4.0 - 6.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 6.6 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 6.0 feet
		Disturbed soil samples obtained at 3.0, 4.0, 5.0 and 6.0 feet
		Soil sample obtained at 6.0 feet was submitted for chemical analysis
		TEST PIT 2
0.0 - 2.0	SP	Dark brown fine to medium sand with a trace of silt and occasional fine gravel and bricks (loose, moist) (fill)
2.0 - 7.1	SP	Black fine to medium sand with abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 6.0 feet
7.1 - 7.6	ML	Grayish tan silt with occasional organic matter (soft, wet)
		Test pit completed at 7.6 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 7.0 feet
		Disturbed soil samples obtained at 3.0, 5.0, 6.0 and 7.0 feet
		Soil sample obtained at 7.0 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 3
0.0 - 2.0	SP	Gray fine to medium sand with a trace of silt and occasional wood and bricks (loose, moist) (fill)
2.0 - 6.6	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
6.6 - 7.1	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 7.1 feet on 09/10/92
		Petroleum-related discoloration noted between 2.0 and 6.5 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.5 feet
		Soil sample obtained at 6.5 feet was submitted for chemical analysis
		TEST PIT 4
0.0 - 3.0	SP	Dark grayish brown fine to medium sand with a trace of silt and occasional fine gravel and bricks (loose, moist) (fill)
3.0 - 5.6	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
5.6 - 6.1	ML	Grayish tan silt with occasional organic matter (soft, wet)
		Test pit completed at 6.1 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 5.5 feet
		Disturbed soil samples obtained at 3.0, 4.0 and 5.5 feet
		Soil sample obtained at 5.5 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 5
0.0 - 1.5	SP	Brown fine to medium sand with a trace of silt and occasional bricks (loose, moist)
1.5 - 3.0	SP	Dark brown fine to medium sand with occasional shell fragments (loose, moist) (fill)
3.0 - 6.6	SP	Black fine to medium sand with a trace of silt and layers of abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 6.0 feet
6.6 - 7.1	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 7.1 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 6.5 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.5 feet
		Soil sample obtained at 6.5 feet was submitted for chemical analysis
		TEST PIT 6
0.0 - 1.5	SP	Brown fine to medium sand with a trace of silt and occasional plastic fragments (loose, moist) (fill)
1.5 - 8.2	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 8.0 feet
8.2 - 8.7	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 8.7 feet on 09/10/92
		Petroleum-related discoloration noted between 3.5 and 8.2 feet
		Disturbed soil samples obtained at 3.0, 5.0, 7.0 and 8.1 feet
		Soil sample obtained at 8.1 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 7
0.0 - 2.0	SP	Dark brown fine to medium sand with a trace of silt and occasional bricks (loose, moist) (fill)
2.0 - 3.0	SP	Black fine to medium sand with a trace of silt with occasional shell fragments (loose, moist) (fill)
3.0 - 7.9	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments and wood debris (loose, moist) (fill)
		Water seepage observed at 7.5 feet
7.9 - 8.4	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 8.4 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 7.8 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 7.8 feet
		Soil sample obtained at 7.8 feet was submitted for chemical analysis
		TEST PIT 8
0.0 - 2.0	SP	Black fine to medium sand with a tract of silt with occasional fine gravel, concrete and bricks (loose, moist) (fill)
2.0 - 3.0	SP	Black fine to medium sand with a trace of silt with occasional shell fragments (loose, moist) (fill)
3.0 - 6.1	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
6.1 - 6.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 6.6 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 6.0 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.0 feet
		Soil sample obtained at 6.0 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 9
0.0 - 2.0	SP	Black fine to medium sand with a tract of silt with occasional fine gravel, concrete and bricks (loose, moist) (fill)
2.0 - 3.0	SP	Black fine to medium sand with a trace of silt with occasional shell fragments (loose, moist) (fill)
3.0 - 6.1	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
6.1 - 6.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 6.6 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 6.0 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.0 feet
		Soil sample obtained at 6.0 feet was submitted for chemical analysis
		TEST PIT 10
0.0 - 1.0	SP	Grayish brown fine to medium sand with a trace of silt with occasional cobbles, concrete and bricks (loose, moist) (fill)
1.0 - 3.0	SP	Dark brown fine to medium sand with occasional shell fragments (loose, moist) (fill)
3.0 - 6.1	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
6.1 - 6.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 6.6 feet on 09/10/92
		Petroleum-related discoloration noted between 3.0 and 6.0 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.0 feet
		Soil sample obtained at 6.0 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP. CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 11
0.0 - 2.5	SP	Grayish brown fine to medium sand with a trace of silt and occasional concrete and fine gravel (loose, moist) (fill)
2.5 - 6.5	SP	Black fine to medium sand with a trace of silt, occasional shell fragments and silt lenses (loose, moist) (fill)
		Water seepage observed at 6.5 feet
		Test pit completed at 6.5 feet on 09/10/92
		Petroleum-related discoloration noted between 2.5 and 6.4 feet
		Disturbed soil samples obtained at 3.0, 5.0 and 6.4 feet
		Soil sample obtained at 6.4 feet was submitted for chemical analysis
		TEST PIT 12
0.0 - 3.0	SP	Dark brown fine to medium sand with occasional bricks and fine gravel (loose, moist) (fill)
3.0 - 6.3	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 5.5 feet
6.3 - 6.7	ML	Grayish tan silt with occasional organic matter (soft, wet)
		Test pit completed at 6.7 feet on 09/11/92
		Petroleum-related discoloration noted between 2.5 and 6.2 feet
		Disturbed soil samples obtained at 3.0, 4.5 and 6.2 feet
		Soil sample obtained at 6.2 feet was submitted for chemical analysis
		TEST PIT 13
0.0 - 3.1	SP	Black fine to medium sand with a trace of silt and layers of abundant shell fragments (medium dense, wet) (fill)
3.1 - 3.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 3.6 feet on 09/11/92
		Petroleum-related discoloration noted between 0.0 to 3.1 feet
		Soil sample obtained at 3.0 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 14
0.0 - 3.1	SP	Black fine to medium sand with a trace of silt and layers of abundant shell fragments (loose, wet) (fill)
3.1 - 3.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 3.6 feet on 09/11/92
		Petroleum-related discoloration noted between 0.0 and 3.1 feet
		Soil sample obtained at 3.0 feet was submitted for chemical analysis
		TEST PIT 15
0.0 - 3.1	SP	Black fine to medium sand with a trace of silt and layers of abundant shell fragments (loose, wet) (fill)
3.1 - 3.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 3.6 feet on 09/11/92
		Petroleum-related discoloration noted between 0.0 and 3.1 feet
		Soil sample obtained at 3.1 feet was submitted for chemical analysis
		TEST PIT 16
0.0 - 2.0	SM	Dark brown silty fine to medium sand with bricks and fine gravel (loose, moist) (fill)
2.0 - 5.5	SP	Black fine to medium sand with a trace of silt and occasional shell fragments (loose, moist) (fill)
5.5 - 7.9	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 7.0 feet
7.9 - 8.4	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 8.4 feet on 09/11/92
		Petroleum-related discoloration noted between 5.0 and 7.9 feet
		Disturbed soil samples obtained at 3.0, 5.0, 7.0 and 7.8 feet
		Soil sample obtained at 7.8 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 17
0.0 - 2.0	SM	Dark brown silty fine to medium sand with bricks and fine gravel (loose, moist) (fill)
2.0 - 5.5	SP	Black fine to medium sand with a trace of silt and occasional shell fragments (loose, moist) (fill)
5.5 - 7.9	SP	Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 7.0 feet
7.9 - 8.4	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 8.4 feet on 09/11/92
		Petroleum-related discoloration noted between 5.0 and 7.9 feet
		Disturbed soil samples obtained at 3.0, 5.0, 7.0 and 7.8 feet
		Soil sample obtained at 7.8 feet was submitted for chemical analysis
		TEST PIT 18
0.0 - 2.5	GP	Tan sandy fine gravel with a trace of silt (medium dense, moist) (fill)
2.5 - 4.9	SP	Black fine to medium sand with a trace of silt and occasional shell fragments (loose, moist) (fill)
		Water seepage observed at 4.5 feet
4.9 - 5.4	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 5.4 feet on 09/11/92
		Petroleum-related discoloration noted between 3.5 and 4.9 feet
		Disturbed soil samples obtained at 2.0, 3.5, 4.5 and 4.8 feet
		Soil sample obtained at 4.8 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 19
		2"-3" asphalt layer
0.0 - 2.5	GP	Tan sandy fine gravel with a trace of silt (medium dense, moist) (fill)
2.5 - 4.9	SP	Black fine to medium sand with a trace of silt and occasional shell fragments (loose, moist) (fill)
		Water seepage observed at 4.5 feet
4.9 - 5.4	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 5.4 feet on 09/11/92
		Petroleum-related discoloration noted between 3.5 and 4.9 feet
		Disturbed soil samples obtained at 2.0, 3.5, 4.5 and 4.8 feet
		Soil sample obtained at 4.8 feet was submitted for chemical analysis
		TEST PIT 20
0.0 - 2.4	SP	Brown fine to medium sand with a trace of silt and occasional shell fragments (loose, moist) (fill)
2.4 - 4.1		Black fine to medium sand with a trace of silt and layers of occasional to abundant shell fragments (loose, moist) (fill)
		Water seepage observed at 3.0 feet
4.1 - 4.6	ML	Gray silt with occasional organic matter (soft, wet)
		Test pit completed at 4.6 feet on 09/11/92
		Petroleum-related discoloration noted between 2.5 and 4.1 feet
		Disturbed soil samples obtained at 2.0, 3.0 and 4.0 feet
		Soil sample obtained at 4.0 feet was submitted for chemical analysis

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-1
0.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 7.0 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 2.5, 5.0 AND 8.0 FEET
		TEST PIT TP-2
0.0 - 3.0	SP	BROWNISH-GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT, (LOOSE, MOIST) (FILL)
3.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT, OCCASIONAL SHELL FRAGMENTS AND OCCASIONAL COBBLES, (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.5 TO 8.0 FEET AND 8.5 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-3
0.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-13

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-4
0.0 - 2.5	SP	BROWNISH-GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE,DRY) (FILL)
2.5 - 9.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 7.0 FEET
9.0 - 10.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 10.0 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 9.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-5
0.0 - 2.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, DRY) (FILL)
2.5 - 8.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 7.0 FEET
8.5 - 9.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.5 FEET
		GROUND WATER SEEPAGE OBSERVED AT 7.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.D AND 8.0 FEET
		TEST PIT TP-6
0.0 - 2.0	SP	LIGHT BROWN TO GRAY FINE TO MEDIUM SAND (VERY LOOSE, DRY) (FILL) GRADES TO BROWN (LOOSE, MOIST)
2.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-14

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-7
0.0 - 2.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (MEDIUM DENSE, MOIST) (FILL)
2.5 - 8.0	SP	DARK BLACK FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-8
0.0 - 3.0	SP	BROWN FINE TO MEDIUM SAND (LOOSE, MOIST) (FILL)
3.0 - 8.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.5 - 9.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.0 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-9
0.0 - 2.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
2.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
		BECOMES WET AT 6.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		VERY STRONG PETROLEUM-LIKE OODRS NOTED FROM 3.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-15

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-10
0.0 - 3.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
3.5 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 5.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-11
0.0 - 3.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
3.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-12
0.0 - 2.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (MEDIUM DENSE, MOIST) (FILL)
2.5 - 8.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.5 - 9.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.0 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-16

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-13
0.0 - 2.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (MEDIUM DENSE, MOIST) (FILL)
2.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
7.0 - 7.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 7.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET
		TEST PIT TP-14
0.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
8.0 - 8.5	ML	DARK GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM SURFACE TO 8.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-15
0.0 - 6.0	SP	BLACK FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
6.0 - 6.5	ML	DARK GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 6.5 FEET ON 10/02/89
		STRONG HYDROCARBON ODOR, SOIL SATURATED WITH PETROLEUM
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-17

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-16
0.0 - 2.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (MEDIUM DENSE, MOIST) (FILL)
2.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-17
0.0 - 3.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (LOOSE, MOIST) (FILL)
3.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-18
0.0 - 1.5	SP	LIGHT GRAY TO BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (MEDIUM DENSE, MOIST) (FILL)
1.5 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 7.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-18

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-19
0.0 - 1.0	SP	LIGHT GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, DRY) (FILL)
1.0 - 3.0	SP	GRADES TO BROWN SAND (LOOSE, MOIST) (FILL)
3.0 - 8.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
8.5 - 9.0	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.0 FEET ON 10/02/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-20
0.0 - 2.0	SP	BROWN-GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL COBBLES (LOOSE, MOIST) (FILL)
2.0 - 7.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
7.5 - 8.5	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 7.5 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET
		TEST PIT TP-21
0.0 - 2.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
2.5 - 7.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
7.5 - 8.5	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 7.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-19

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-22
0.0 - 2.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL COBBLES (LOOSE, MOIST) (FILL)
2.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
7.0 - 7.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 7.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.5 FEET
		TEST PIT TP-23
0.0 - 2.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND (MEDIUM DENSE, MOIST) (FILL)
2.0 - 7.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.0 FEET
7.5 - 8.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.0 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 7.5 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET
		TEST PIT TP-24
0.0 - 1.0	SP	BROWN SILTY FINE TO MEDIUM SAND WITH TRACE OF GRAVEL (MEDIUM DENSE, MOIST) (FILL)
1.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
7.0 - 7.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 7.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.D AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-25
0.0 - 2.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT A GRAVEL (LOOSE, DRY) (FILL)
2.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT A OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, M BECOMES WET AT 5.5 FEET
7.0 - 7.5	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 7.0 FE
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.0
		TEST PIT TP-26
0.0 - 6.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AN OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOI
6.0 - 7.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 6.0 FEE
		SOIL SATURATED WITH PETROLEUM
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0 AND 6.0 FEET
		TEST PIT TP-27
0.0 - 2.0	SP	BROWN TO GRAY SAND WITH TRACE OF SILT (LOOSE, DRY) (FI
2.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIS BECOMES WET AT 5.5 FEET
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.5 FEE

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-21

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-31
0.0 - 4.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
4.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		SLIGHT PETROLEUM-LIKE ODORS NOTED FROM 5.0 TO 7.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-32
0.0 - 3.5	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
3.5 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-33
0.0 - 2.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
2.0 - 8.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIDNAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.0 - 8.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-23

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-34
0.0 - 0.5	GM	BROWN SILTY GRAVEL (DRY, DENSE) (FILL)
0.5 - 2.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH SILT (MEDIUM DENSE, MOIST) (FILL)
2.5 - 9.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) GRADES TO LOOSE, WET (FILL)
9.0 - 9.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.5 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 4.0 TO 8.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-35
0.0 - 0.6	GP	BROWN SILTY GRAVEL WITH SAND AND COBBLES (DENSE, DRY) (FILL)
0.6 - 2.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
2.0 - 8.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.5 - 10.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 10.0 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 8.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET
		TEST PIT TP-36
0.0 - 0.7		3-INCH ASPHALT WITH A GRAVEL BASE
0.7 - 8.5	SP	DARK GRAY TO BLACK FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
8.5 - 9.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 9.0 FEET ON 10/03/89
		STRONG PETROLEUM-LIKE ODORS (GASOLINE) NOTED FROM 2.0 TO 8.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE A-24

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-37
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.5	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.5 - 3.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT (LOOSE, MOIST) (FILL)
3.0 - 6.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
6.5 - 7.0	ML	GRAY SILT WITH TRACE OF ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 10/04/89
		MODERATE PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 4.0 FEET
		HEAVY SHEEN OBSERVED ON WATER TABLE
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.0 FEET
		TEST PIT TP-38
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.0	GP	BROWN GRAVEL WITH SAND AND TRACE OF SILT (DENSE, DRY) (FILL)
1.0 - 6.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.0 FEET
6.5 - 7.0	ML	GRAY SILT WITH TRACE OF ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 10/04/89
		MODERATE TO STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 5.0 FEET
		HEAVY SHEEN OBSERVED ON WATER TABLE
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-25

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-39
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.5	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.5 - 5.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 4.5 FEET
5.5 - 6.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 6.0 FEET ON 10/04/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 5.0 FEET
		HEAVY SHEEN OBSERVED ON WATER TABLE
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 4.0 AND 5.0 FEET
		TEST PIT TP-40
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 2.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
2.0 - 4.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
4.0 - 5.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST)
5.5 - 6.0	ML	GRAY SILT WITH ABUNDANT ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 6.0 FEET ON 10/04/89
		NO PETROLEUM-LIKE ODORS NOTED
		HEAVY SHEEN OBSERVED ON WATER TABLE
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 5.5 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-26

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-41
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 2.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
2.0 - 5.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
5.0 - 5.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 5.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 3.0 TO 5.0 FEET
		MODERATE GROUND WATER SEEPAGE OBSERVED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0 AND 5.0 FEET
		TEST PIT TP-42
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.0 - 5.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 4.5 FEET
5.0 - 5.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 4.5 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 1.0 TO 4.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0 AND 4.5 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-27

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-43
0.0 - 0.3		ASPHALTIC CONCRETE AND BROWN GRAVEL BASE
0.3 - 2.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF SHELL FRAGMENTS (LOOSE, MOIST) (FILL)
2.0 - 5.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT
5.5 - 6.5	ML	GRAY SILT WITH ORGANIC MATTER
		TEST PIT COMPLETED AT 6.5 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 5.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 4.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0 AND 5.0 FEET
		TEST PIT TP-44
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.5	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.5 - 6.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.0 FEET
6.0 - 7.0	ML	GRAY SILT WITH ORGANIC MATTER
		TEST PIT COMPLETED AT 7.0 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 5.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0, 5.0 AND 6.5 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-45
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 0.8	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
0.8 - 6.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.0 FEET
6.5 - 7.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 6.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 1.0 TO 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0 AND 5.0 FEET
		TEST PIT TP-46
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.0 - 6.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
6.5 - 7.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 6.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		NO PETROLEUM-LIKE ODORS NOTED
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0 AND 5.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-29

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-47
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 5.5 FEET
7.0 - 7.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 6.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET
		TEST PIT TP-48
0.0 - 0.3		ASPHALTIC CONCRETE
0.3 - 1.0	GM	BROWN SILTY GRAVEL WITH SAND (DENSE, DRY) (FILL)
1.0 - 7.0	SP	BROWN FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) GRADES TO GRAY BECOMES WET AT 6.0 FEET
7.0 - 7.5	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 10/04/89
		MODERATE GROUND WATER SEEPAGE AT 6.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 1.0 TO 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0, 5.0 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-30

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT TP-49
0.0 - 1.5	SP	BROWN SILTY SAND WITH TRACE OF OCCASIONAL GRAVEL (MEDIUM DENSE, MOIST) (FILL)
1.5 - 7.5	SP	DARK GRAY FINE TO MEDIUM SAND WITH TRACE OF SILT AND LAYERS OF OCCASIONAL TO ABUNDANT SHELL FRAGMENTS (LOOSE, MOIST) (FILL) BECOMES WET AT 6.0 FEET
7.5 - 8.0	ML	GRAY SILT WITH ORGANIC MATTER (SOFT, WET)
		TEST PIT COMPLETED AT 8.0 FEET ON 10/04/89
		STRONG PETROLEUM-LIKE ODORS NOTED FROM 2.0 TO 6.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 6.0 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE A-31

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 50
0.0 - 5.0	SP	DARK GRAY TO BLACK FINE TO MEDIUM SAND (LOOSE, MOIST)
5.0 - 6.5	ML	BROWN SILT (SOFT, WET)
		TEST PIT COMPLETED AT 6.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0 AND 5.0 FEET
		TEST PIT 51
0.0 - 7.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
7.0 - 7.5		BROWN TO GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET DN 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.5 FEET
		TEST PIT 52
0.0 - 6.0	SP	DARK GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES IO DARK
6.0 - 6.5	ML	BROWN AND GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 6.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.D, 5.0 AND 6.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE 17

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 53
0.0 - 6.5	SP	BROWN AND GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
6.5 - 7.0	ML	GRAY TO BROWN SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.5 FEET
		TEST PIT 54
0.0 - 6.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
6.5 - 7.0	ML	BROWN TO GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		FREE PRODUCT OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 6.5 FEET
		TEST PIT 55
0.0 - 7.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
7.0 - 7.5	ML	BROWN TO GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 4.0 FEET
		FREE PRODUCT OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 4.0, 5.0 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE 18

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 56
0.0 - 7.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.5 FEET
		TEST PIT 57
0.0 - 7.5	SP	BROWN FINE SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO BLUISH-GRAY
7.5 - 8.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 8.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 7.0 AND 8.0 FEET
		TEST PIT 58
0.0 - 7.5	SP	LIGHT GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
7.5 - 8.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 8.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 8.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 59
0.0 - 6.5	SP	BROWN AND BLACK FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
6.5 - 7.0	ML	BROWN AND GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.5 AND 7.0 FEET
		TEST PIT 60
0.0 - 7.5	SP	BROWN FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
7.5 - 8.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 8.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.5 AND 8.0 FEET
		TEST PIT 61
0.0 - 5.0	SP	BROWN FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
		TEST PIT COMPLETED AT 5.0 FEET ON 01/03/90
		HIGH GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0 AND 5.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 62
0.0 - 6.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND (LOOSE, MOIST) GRADES TO DARK GRAY
6.5 - 7.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 7.0 FEET
		TEST PIT 63
0.0 - 6.0	SP	DARK GRAY FINE TO MEDIUM SAND (LOOSE, MOIST) BRICK AND WOOD DEBRIS GRADES TO DARK GRAY
6.0 - 6.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 6.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.5 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.0 AND 6.5 FEET
		TEST PIT 64
0.0 - 4.5	SP	DARK BROWN AND GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
4.5 - 5.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE AT 3.0 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 4.5 AND 5.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE 21

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 65
0.0 - 5.0	SP	BLACK TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
5.0 - 5.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 5.5 FEET
		TEST PIT 66
0.0 - 1.5	GP	DARK BROWN TO GRAY SANDY GRAVEL WITH SILT AND OCCASIONAL BRICKS (LOOSE, MOIST) (FILL)
1.5 - 5.0	SP	BLACK TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS (LOOSE, MOIST) GRADES TO DARK GRAY
5.0 - 5.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 5.5 FEET
		TEST PIT 67
0.0 - 1.5	SM	BLACK SILTY FINE TO MEDIUM SAND WITH ROOTS (LOOSE, MOIST)
1.5 - 3.0	SP	DARK BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
3.0 - 3.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 3.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0 AND 3.5 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

GeoEngineers

LOG OF TEST PIT

FIGURE 22

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 68
0.0 - 1.5	SM	BLACK SILTY FINE TO COARSE SAND WITH ROOTS (LOOSE, MOIST)
1.5 - 4.5	SP	GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
4.5 - 5.0	ML	GRAY SILT (SOFT, LOOSE)
		TEST PIT COMPLETED AT 5.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 4.5 AND 5.0 FEET
		TEST PIT 69
0.0 - 5.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
5.0 - 5.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 5.5 FEET
		TEST PIT 70
0.0 - 1.0	SM	BLACK FINE TO COARSE SAND WITH ROOTS (LOOSE, MOIST)
1.0 - 4.5	SP	GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
4.5 - 5.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 4.5 AND 5.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE 23

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 71
0.0 - 4.5	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS AND ROOTS (LOOSE, MOIST) GRADES TO DARK GRAY
4.5 - 5.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 4.5 AND 5.0 FEET
		TEST PIT 72
0.0 - 5.0	SP-SM	BROWN TO GRAY FINE TO MEDIUM SAND WITH SILT AND OCCASIONAL SHELLS (LOOSE, MOIST) GRADES TO DARK GRAY
5.0 - 5.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 5.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 2.0 FEET
		MODERATE SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0 AND 5.5 FEET
		TEST PIT 73
0.0 - 1.0	SM	BLACK SILTY FINE TO COARSE SAND (LOOSE, MOIST)
1.0 - 6.5	SP	GRAY TO BROWN FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST)
6.5 - 7.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 4.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.5 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE 24

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 74
0.0 - 7.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELL FRAGMENTS (LOOSE, MOIST) GRADES TO DARK GRAY
7.0 - 7.5	ML	
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		SLIGHT SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 7.5 FEET
		TEST PIT 75
0.0 - 7.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS (LOOSE, MOIST) GRADES TO DARK GRAY
7.0 - 7.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 7.5 FEET
		TEST PIT 76
0.0 - 7.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH SHELLS (LOOSE, MOIST) GRADES TO DARK GRAY
7.0 - 7.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 7.5 FEET
		TEST PIT 77
0.0 - 6.0	SP	BROWN TO GRAY FINE TO MEDIUM SAND WITH SHELLS (LOOSE, MOIST)
6.0 - 6.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 6.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.0 AND 6.5 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

Geo Engineers

LOG OF TEST PIT

FIGURE 25

GEI 110-103

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 78
0.0 - 7.0	SP	BLACK TO GRAY FINE TO MEDIUM SAND WITH SHELLS AND ROOTS (LOOSE, MOIST) GRADES TO GRAY
7.0 - 7.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 7.5 FEET
		TEST PIT 79
0.0 - 7.0	SP	GRAY FINE TO MEDIUM SAND WITH SHELLS (LOOSE, MOIST)
7.0 - 7.5	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.5 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 3.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 7.0 AND 7.5 FEET
		TEST PIT 80
0.0 - 6.5	SP	GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS (LOOSE, MOIST)
6.5 - 7.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 4.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.5 AND 7.0 FEET
		TEST PIT 81
0.0 - 6.5	SP	GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS AND ROOTS (LOOSE, MOIST)
6.5 - 7.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 5.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.0 AND 6.5 FEET

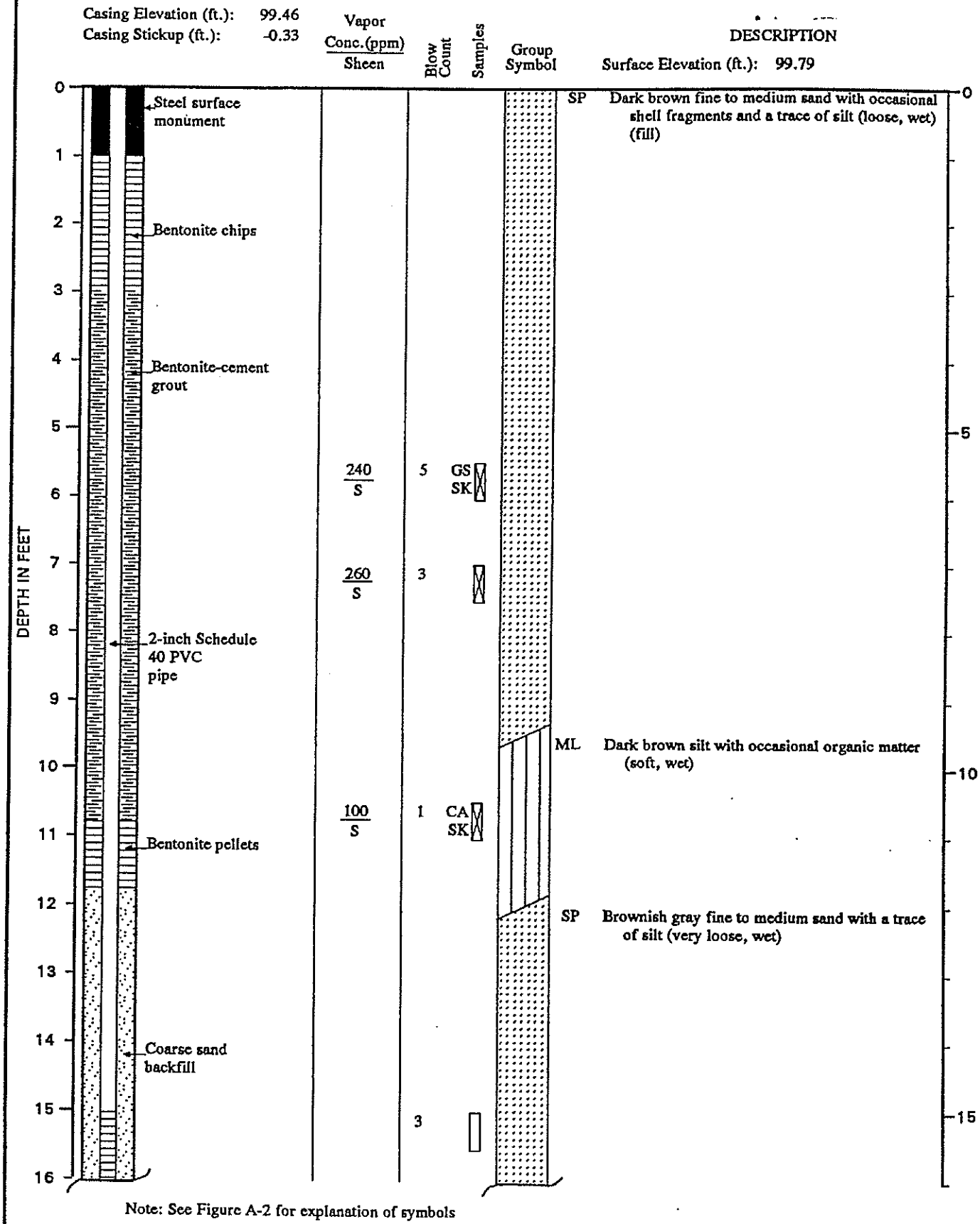
THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

LOG OF TEST PIT

DEPTH BELOW GROUND SURFACE (FEET)	SOIL GROUP CLASSIFICATION SYMBOL	DESCRIPTION
		TEST PIT 82
0.0 - 6.5	SP	GRAY TO BLACK FINE TO MEDIUM SAND WITH OCCASIDNAL SHELLS (LOOSE, MOIST)
6.5 - 7.0	ML	
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 4.0 FEET
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.5 AND 7.0 FEET
		TEST PIT 83
0.0 - 1.0	GP	GRAY SANDY GRAVEL WITH SILT (LOOSE, MOIST)
1.0 - 6.5	SP	GRAY FINE TO MEDIUM SAND WITH OCCASIONAL SHELLS (LOOSE, MOIST)
6.5 - 7.0	ML	GRAY SILT (SOFT, WET)
		TEST PIT COMPLETED AT 7.0 FEET ON 01/03/90
		GROUND WATER SEEPAGE ENCOUNTERED AT 4.5 FEET
		HEAVY SHEEN OBSERVED ON THE WATER TABLE
		DISTURBED SOIL SAMPLES OBTAINED AT 3.0, 5.0, 6.5 AND 7.0 FEET

THE DEPTHS ON THE TEST PIT LOGS, ALTHOUGH SHOWN TO 0.1 FOOT, ARE BASED ON AN AVERAGE OF MEASUREMENTS ACROSS THE TEST PIT AND SHOULD BE CONSIDERED ACCURATE TO 0.5 FOOT.

MONITORING WELL NO. D-2A



Note: See Figure A-2 for explanation of symbols

Geo Engineers

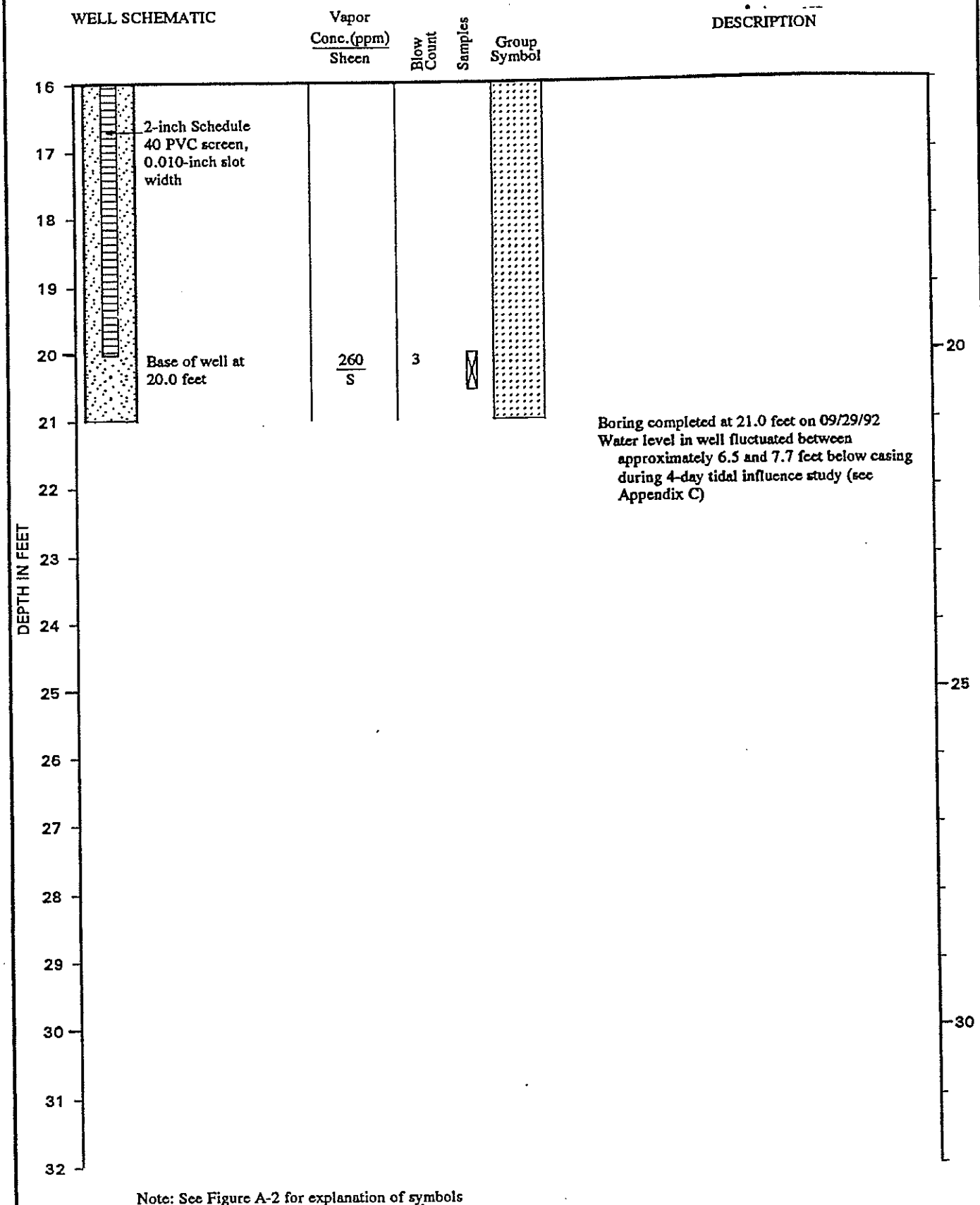
LOG OF MONITORING WELL

FIGURE A-15

:DDK:CMS 1/21/93

0372-099-R04

MONITORING WELL NO. D-2A
(Continued)



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-15

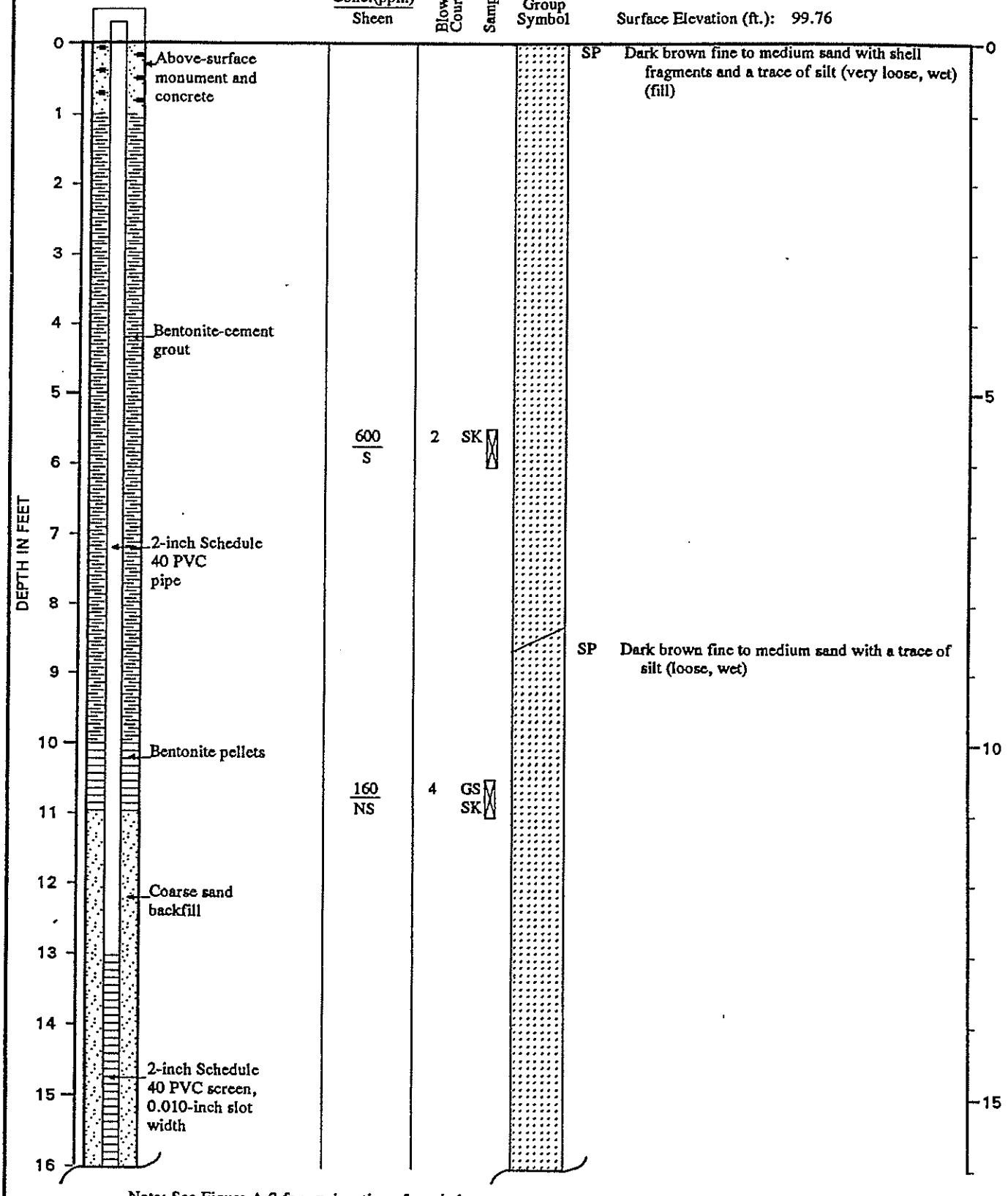
:DDK:CMS 1/21/93

0372-099-R04

MONITORING WELL NO. D-5A

WELL SCHEMATIC

Casing Elevation (ft.): 99.19
Casing Stickup (ft.): -0.57



Note: See Figure A-2 for explanation of symbols

Geo Engineers

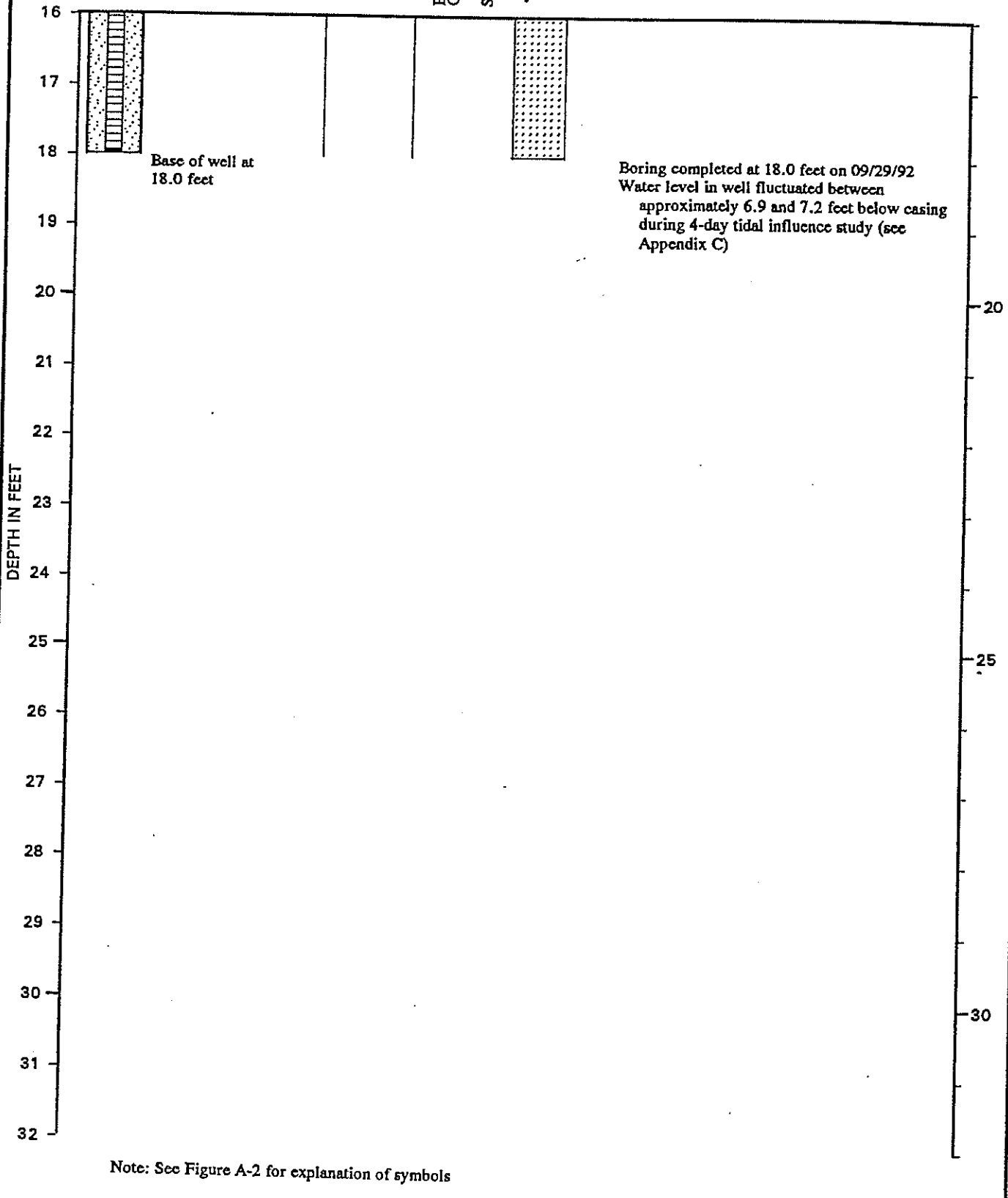
LOG OF MONITORING WELL

FIGURE A-16

:DDK:CMS 1/21/93

0372-099-R04

MONITORING WELL NO. D-5A
(Continued)



Note: See Figure A-2 for explanation of symbols

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-16

:DDK:CMS 1/21/93

0372-099-R04

Soil Boring: SB - 1

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs. (SW-SM) Brown, fine - coarse SAND, with <5% silt, loose, slight sheen
Dry	0.0				SW-SM		1	
							2	
							3	
Dry	0.0						4	Same As Above: brown, fine - coarse SAND, with <5% silt, loose,slight sheen
							5	
Wet	0.0		SB-1-6				6	(SW-SM) Same As Above: brown, fine - coarse SAND, with <5% silt, loose, slight sheen
					SW-SM		7	
Wet	0.0						8	Same As Above: brown, fine - coarse SAND, with <5% silt, loose, slight sheen
							9	
Wet	0.4						10	(SP-SM) Brown, fine - med SAND, with 10% silt, loose, no sheen
Wet	0.4						11	
					SP-SM			
Wet	0.0						12	
Wet	0.1		SB-1-13				13	(ML) Light brown - gray SILT, with <5% very fine sand, low plasticity, no sheen
Wet	0.0				ML		14	
Wet	0.5						15	(SW) dark brown, fine - med, SAND, no sheen
Wet	0.3						16	
Wet	0.3						17	
					SW			
Wet	0.2		SB-1-18				18	
Wet	0.0						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 2

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SW-SM) Brown, fine - coarse SAND, w/<5% silt, loose, no sheen
							1	
Dry	0.0				SW-SM		2	
							3	
Dry	0.0						4	Same As Above: w/ <5% shell fragments, no sheen
							5	
Wet	36		SB-2-6				6	(SW-SM) Same As Above: w/ <5% shell fragments, no sheen
					SW-SM		7	
Wet	517						8	Same As Above: w/ <5% shell fragments, no sheen
Wet	12.7						9	
Wet	5.5				SP-SM		10	(SP-SM) Dark Brown, fine - med SAND w/ 5% silt, loose, slight sheen
Wet	0.4						11	Same As Above w/ 5% silt and 5% shell fragments: loose, no sheen
Wet	0.3		SB-2-12				12	(SP-SM) Same As Above:
					SP-SM		13	
Wet	0.3		SB-2-13					(ML) Brown grayish SILT, w/ <5% fine sand, med plasticity, no sheen
Wet	1.0						14	
					ML			
Wet	0.5						15	
					SP-SM			(SP-SM) Brown, fine - med silty SAND, shell fragments, no sheen
							16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 3

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SW-SM) Brown, fine - coarse SAND, with 10% silt, loose, no sheen
Dry	0.0				SW-SM		1	
							2	
							3	
							4	
Dry	0.0		SB-3-4.5				5	
Wet	12.0						6	Brown, fine - coarse SAND, with 5% silt, 5% shells, loose, no sheen
								No Recovery 9 - 11.5 feet bgs.
							7	
Wet	0.0						8	
							9	
			No Recovery				10	
					SW			(SW) Dark brown, fine - med SAND, with 5% shell fragments, <5% silt, loose, no sheen
							11	
Wet	2.0		SB-3-12				12	
								(ML) Brown Gray SILT, stiff, med plasticity, no sheen
Wet	1.1				ML		13	
Wet	1.3		SB-3-14				14	
								(SW) Dark brown, fine - med SAND w/ 5% fine - med red sand; loose, no sheen
Wet	0.9				SW		15	
Wet	0.7						16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 4

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
							1	(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, 5% concrete and brick debris, loose, slight sheen
Dry	0.0				SW-SM		2	
							3	
Dry	0.0						4	(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, loose, slight sheen
							5	
Wet	12.0		SB-4-6		SW-SM		6	
							7	
Saturated	20.4		SB-4-8				8	(SW-SM) Same As Above: w/ shell fragments to 5%, moderate sheen
Saturated	2.6				SW-SM		9	
Wet	1.6		SB-4-10				10	(ML) Brownish-gray SILT w/ 5% organics: stiff, med plasticity, no sheen,
Moist	2.2				ML		11	
Wet	4.7						12	
Wet	3.9				SM		13	(SM) Brown, silty SAND, w/ 5% shell fragments, loose, no sheen
Wet	3.2						14	(ML) Brown gray SILT, w/ <5% sand, stiff, no sheen
Wet	2.0				ML		15	
Wet	2.5						16	(SM) Brown, silty fine - med SAND, dense, no sheen
Moist	2.3						17	
Moist	3.5				SM		18	
Moist	3.6						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 5

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
Dry	0.0				SW		1	(SW) Brown, fine - med SAND, w/ very little (<5%) silt, loose, no sheen
							2	
							3	
Moist	0.0				SW-SM		4	(SW-SM) Brown, fine - med SAND, w/ 5-10% silt, 5% shell fragments, loose, no sheen
							5	
Saturated	0.0		SB-5-5.5				6	Same As Above; mod sheen
Wet	0.0						7	(SW-SM) Same As Above:
Wet	0.1				SW-SM		8	
Wet	0.4						9	
Moist	1.7						10	(ML) Brown gray SILT, w/ 5% plant material, stiff, high plasticity
Dry	1.1		SB-5-11		ML		11	
Dry	1.0						12	Same As Above: less stiff, med-high plasticity
	0.5		SB-5-13				13	
Wet	0.4						14	
	0.3				SW		15	(SW) Dark brown, fine - med SAND, w/ 5% silt and 5% red fine to med sand: dense, no sheen,
							16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 6

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/7/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
								(SW-SM) Brown, fine to coarse sand with <5% silt, loose, slight sheen
Dry	0.0				SW-SM		1	
							2	
							3	
Wet	0.3						4	
							5	Same As Above
Saturated	316		SB-6-6				6	
							7	
Saturated	82						8	
								(ML) Gray brown sandy SILT w/ 5-10% plant material, firm, med plasticity, no sheen,
Dry	2.4		No Recovery				9	
Dry	1.0				ML		10	
Dry	0.6		SB-6-11				11	
Wet	0.3						12	Gray brown sandy SILT w/ 5-10% plant material: firm, med plasticity, no sheen,
Moist	1.7						13	
Wet	2.3						14	(SW-SM) Brown fine to med SAND with 5% silt and <5% red sand, loose
Moist	2.2						15	
Moist	2.0				SW-SM		16	
Wet	0.2		SB-6-17				17	Same As Above
Wet	1.3						18	
Moist	1.7						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 7

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/7/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
								(SW-SM) Brown, fine - coarse SAND, w/ <5% silt, loose, no sheen
Dry	0.3				SW-SM		1	
							2	
							3	
Wet	266		SB-7-4				4	
							5	Brown, fine - coarse SAND, w/ <5% silt, loose, no sheen
Wet	258						6	
							7	
Wet	280						8	
							9	
			No Recovery				10	(SW-SM) Brown, fine - coarse SAND, with <5% silt, loose, no sheen
							11	
Wet	122				SW-SM		12	
Wet	7.1						13	
Wet	0.7		SB-7-14		ML		14	(ML) Brown gray SILT, stiff, moderate plasticity, no sheen
Wet	0.7				SM		15	(SM) Brown, fine-med, silty SAND, no sheen
Saturated	3.2				SW		16	(SW) Brown, fine - med SAND, w/ 5% silt, loose, no sheen
Wet	2.1		SB-7-17		ML		17	(ML) Brown silty SAND/sandy SILT, w/ 10% shell fragments
Wet	1.0						18	(SW-SM) Brown, fine- coarse SAND, w/ <5% silt, loose, no sheen
Wet	0.8				SW-SM		19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 8

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/6/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
								(SW-SM) Brown, fine - coarse SAND, <10% silt, loose, no sheen
Dry	0.1				SW-SM		1	
							2	
							3	
Wet	0.1						4	
							5	(SW-SM) Brown fine - coarse SAND, <10% silt, loose, no sheen
Saturated	88.3		SB-8-6				6	
							7	
Saturated	128.3				SW-SM		8	
							9	
			No Recovery				10	(ML) Brownish-gray SILT, low plasticity, soft, no sheen
							11	
Wet			SB-8-12		ML		12	
Moist							13	
Moist			SB-8-14				14	(SM) Dark brown, silty SAND, loose, no sheen
Moist					SM		15	(SW) Dark brown, fine-med SAND, w/ <5% silt, no sheen
					SW		16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 9

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/7/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs
								(SW-SM) Brown, fine- coarse SAND, w/ 5% silt, w/ 5% shells, loose, no sheen
Dry	0.2				SW-SM		1	
							2	
							3	
Wet	0.3						4	
							5	Same As Above: no sheen
Saturated	12.9						6	
							7	
Saturated	69.3		SB-9-7.5				8	(SW-SM) Same As Above: slight sheen
							9	
			No Recovery		SW-SM		10	
Wet	1.5						11	(SM) Brown SAND, w/ 10% silt, w/ 5% shell fragments, slight sheen
Wet	2.7				SM		12	
Moist	3.1						13	
Moist	2.5						14	(ML) Brownish-gray SILT, w/ <5% fine sand, soft, med plasticity, no sheen
Moist	0.8		SB-9-15		ML		15	
Moist	1.1						16	
								(SM) Brown fine - med SAND w/10% silt and <5% shell fragments: no sheen
Moist	1.9		SB-9-17				17	
Moist	1.1				SM		18	
Moist	1.7						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 10

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/7/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, 5% shells: loose, no sheen
Dry	0.0				SW-SM		1	
							2	
							3	
Wet	321						4	
							5	Same As Above: moderate sheen
Saturated	418		SB-10-6				6	No Recovery 8-12 feet bgs.
							7	
Saturated	320						8	
							9	
			No Recovery				10	
							11	(ML) Brown SILT, w/ 10% plant debris, soft - med plasticity, no sheen
Moist	2.9				ML		12	
Moist	1.4		SB-10-13				13	
Wet	0.2						14	
Wet	1.0		SB-10-15		SW		15	(SW) Brown, fine - med SAND, w/ 10% red sand, no sheen
Moist							16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 11

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/7/2010
Date Completed: 7/7/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SM) Brown, fine - coarse SAND, w/ <10% silt, loose, slight sheen
Dry	0.0				SM		1	
							2	
							3	
Wet	0.0						4	
							5	Same As Above: mod sheen
Wet	610		SB-11-6				6	
							7	
Wet	571						8	
								(ML) Brown SILT, sitff, med plasticity, no sheen
Moist	1.8						9	
Moist	0.1				ML		10	
	0.0						11	
Moist	0.3						12	
					SP			(SP) Dark brown SAND, w/ 10% shell fragments, no sheen
Wet	1.0		SB-11-13				13	
					ML			(ML) Brown gray SILT, stiff, med plasticity, no sheen
Moist	1.4						14	
								(SW) Brown, fine - med SAND, w/ <5% silt, loose, no sheen
Moist	1.0		SB-11-15				15	
Moist	0.0						16	
Moist	6.8				SW		17	
Moist	0.3						18	
Moist	0.0						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 12

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/8/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SW-SM) Dark brown, fine - med SAND, w/ 5% silt, loose, heavy sheen
Wet	148		SB-12-2		SW-SM		1	
							2	
							3	
Saturated	252		SB-12-4				4	
							5	
Saturated	323						6	
								Bottom of borehole at 6.5 feet.
							7	
							8	

Soil Boring: SB - 13

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/8/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL: Boring was hand cleared to 8 feet bgs.
								(SW) Brown, med - coarse SAND, w/ 5% shells, loose, slight sheen
Dry	0.5				SW		1	
							2	
							3	
Dry	0.4						4	
Damp	22.4		SB-13-5				5	(SW-SM) Brown, med - coarse SAND, w/ 5% shells, 5% silt, loose, moderate sheen
							6	
					SW-SM		7	
Wet	32.1						8	
Wet	0.8						9	
Wet	1.8						10	(ML) Brownish gray SILT, w/ 10% plant debris, stiff, no sheen
Moist	2.2		SB-13-11		ML		11	
Moist	2.2						12	
Wet	1.4						13	
Moist	1.6		SB-13-14				14	(SW) Brown, fine - med SAND, w/ 5% fine shell fragments, no sheen
Moist	0.4				SW		15	
							16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 14

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/8/2010
Date Completed: 7/8/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Asphalt.
							1	FILL: Boring was hand cleared to 8 feet bgs.
Dry	2.2						2	(SW-SM) Brown, fine- med SAND, w/ <5% silt, loose, no sheen
Dry	1.6		SB-14-4		SW-SM		4	
Wet	63.9		SB-14-6				6	Same As Above: w/ 5% shell fragments, moderate sheen
Wet	10.4						8	
Wet	10.9						9	
Wet	2.3						10	(ML) Brown gray SILT, soft, low plasticity, no sheen
Moist	3.6						11	
Wet	1.6		SB-14-12		ML		12	
Wet	2.8		SB-14-13				13	
Wet	3.6						14	
Moist	3.2						15	(SW-SM) Brown, fine - med SAND, w/ 10% silt, no sheen
Moist	3.2						16	
Moist	2.2		SB-14-17		SW-SM		17	
Moist	2.5						18	
Moist	2.2						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 15

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/9/2010
Date Completed: 7/9/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 16 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Asphalt.
							1	FILL: Boring was hand cleared to 8 feet bgs.
Dry	0.2						2	(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, loose, no sheen
Dry	0.2		SB-15-4		SW-SM		4	
							5	
Wet	35.2		SB-15-6				6	Same As Above: w/ 5-10% shell fragments, moderate sheen
							7	
Wet	50.2						8	
Wet	30.6		SB-15-9				9	
Wet	51.8				SM		10	(SM) Gray, fine - med silty SAND, moderate sheen
Wet	38.4						11	(ML) Gray SILT, w/ 5% fine sand, stiff, low plasticity, slight sheen
Wet	0.6		SB-15-12				12	
Wet	0.3				ML		13	
Wet	1.3						14	
Wet	0.7						15	
					SM		15	(SM) Gray, silty, fine - coarse SAND, loose, no sheen
							16	Bottom of borehole at 16.0 feet.
							17	

Soil Boring: SB - 16

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/9/2010
Date Completed: 7/9/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Asphalt.
							1	FILL: Boring was hand cleared to 8 feet bgs.
	0.5		SB-16-2				2	(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, 5% shells, loose, slight sheen
	285		SB-16-4		SW-SM		4	
Wet	153.8						6	
							7	Brown, fine - coarse SAND, w/ silt and shell fragments(<5%), loose, strong sheen
Wet	206.3		SB-16-8				8	
Wet	4.7						9	
Moist	2.6						10	(ML) Brown sandy SILT, w/ fine - med sand, firm, no sheen
Moist	0.7		SB-16-11		ML		11	
Wet	0.7						12	
Wet	1.9		SB-16-13				13	(SW) Brown, fine - med SAND, <5% silt, loose, no sheen
Moist	0.7						14	
Moist	0.6						15	
Moist	0.6				SW		16	
Wet	4.8						17	
Moist	0.7						18	
Moist	0.2		SB-16-19				19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB - 17

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 7/9/2010
Date Completed: 7/9/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 20 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Asphalt.
							1	FILL: Boring was hand cleared to 8 feet bgs.
Dry	493		SB-17-2		SW-SM		2	(SW-SM) Brown, fine - coarse SAND, w/ 5% silt, loose, heavy sheen w/ brown floating product observed, brown staining
Damp	397						3	
							4	
							5	
Wet	337		SB-17-6				6	Same As Above: 10% shells, mod sheen
							7	
Wet	92.8						8	
Wet	6.4						9	
Moist	2.4						10	(ML) Brown, sandy SILT, no sheen
Moist	6.1						11	
Moist	1.3				ML		12	
Wet	0.6		SB-17-13				13	
Moist	1.5						14	
Moist	0.6						15	(SW) Brown, fine - med SAND w/ 5% shell fragments, loose, no sheen
Moist	0.2						16	
Moist	1.1		SB-17-17		SW		17	
Moist	0.3						18	
Moist	0.2						19	
							20	Bottom of borehole at 20.0 feet.
							21	

Soil Boring: SB-19

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/25/2010
Date Completed: 10/25/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Fill.
								Boring was handcleared to 8 feet bgs.
								(SW-SM) Brown-dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Moist	0		SB-19-2		SW-SM		1	
							2	
							3	Dark brown, med. SAND w/ <5% silt. loose. (moderate sheen)
Moist	1.2		SB-19-4				4	
							5	
								(SW-SM) Dark brown, med. SAND w/ <5% silt and 5% shell fragments. dense. (heavy sheen)
Wet	431		SB-19-6				6	
							7	
					SW-SM		8	
							9	Dark brown, med. SAND w/ <5% silt. dense. (heavy sheen)
Moist	166						10	
							11	(ML) Brown SILT. stiff, low-medium plasticity. (no sheen)
Moist	4		SB-19-11		ML		12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-20

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/25/2010
Date Completed: 10/25/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL. Boring was hand cleared to 8 feet bgs.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Moist	0.2				SW-SM		2	
							3	
							4	Dark brown, med. SAND w/ <5% silt. loose. (slight sheen)
Moist	0.2		SB-20-4				5	
							6	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
Wet	134		SB-20-6		SW-SM		7	
Wet	210						8	Dark brown, med. SAND w/ 5% shell fragments and <5% silt. loose. (moderate sheen)
Saturated	147						9	
							10	(SW-SM) Dark brown, med. SAND w/ 5% shell fragments and <5% silt. loose. (moderate sheen)
Moist	24.4		SB-20-10		SW-SM		11	Dark brown, med. SAND w/ 5% shell fragments and <5% silt. dense. (no sheen)
Moist	3.2		SB-20-11				12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-21

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/25/2010
Date Completed: 10/25/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL.
								Boring was handcleared to 8 feet bgs.
								(SW-SM) Brown-dark brown, med. SAND w/ <5% silt. loose. (slight sheen)
Moist	0.6				SW-SM		1	
							2	
							3	Dark brown, med. SAND w/ <5% silt. loose. (moderate sheen)
Moist	1.0		SB-21-4				4	
							5	
							6	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
Wet	427		SB-21-6		SW-SM		7	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
Wet	277						8	
								Same as above. loose. (heavy sheen)
Wet	68.2						9	
								(SW-SM) Same as above. loose. (moderate sheen)
Wet	48.0				SW-SM		10	
								Same as above. loose. (no sheen)
Wet	1.2		SB-21-11				11	
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-22

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/25/2010
Date Completed: 10/26/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL. Boring was hand cleared to 8 feet bgs.
Dry	0.0		SB-22-2		SW-SM		1	(SW-SM) Dark brown, med. SAND. loose. (no sheen)
							2	
							3	
Moist	485		SB-22-4				4	Dark brown, med. SAND. loose. (moderate sheen)
							5	
Wet	1052		SB-22-6		SW-SM		6	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
							7	
Saturated	1167						8	Same as above. (heavy sheen)
Wet	12.4				SW-SM		9	(SW-SM) Same as above. dense. (slight sheen)
Moist	2.6		SB-22-10				10	(ML) Brown SILT w/ <5% sand and organics. (no sheen)
Moist	1.6				ML		11	Brown SILT w/ 10% organics. stiff. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-23

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/25/2010
Date Completed: 10/25/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL-Dark brown sand with some brick debris. Boring was hand cleared to 8 feet bgs.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Dry	0.6		SB-23-2		SW-SM		2	
							3	
Moist	0.4		SB-23-4				4	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (no sheen)
							5	
Wet	96		SB-23-6		SW-SM		6	(SW-SM) Same as above. (heavy sheen)
							7	Dark brown, med. SAND w/ <5% shell fragments. loose. (moderate sheen to heavy sheen)
Saturated	150.1						8	
Wet	18.1				SW-SM		9	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
Moist	4.0						10	Same as above. (moderate sheen)
Moist	0.8		SB-23-11		SW-SM		11	(SW-SM) Same as above. dense. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-24

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/26/2010
Date Completed: 10/26/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								FILL. Boring was hand cleared to 8 feet bgs.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Dry	0		SB-24-2		SW-SM		2	
							3	Dark brown, med. SAND w/ <5% silt. loose (slight sheen)
Moist	6		SB-24-4				4	
							5	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
Wet	592		SB-24-6		SW-SM		6	
							7	Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
Wet	120						8	
							9	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (slight sheen)
Wet	17				SW-SM			
Wet	1		SB-24-10				10	(ML) Dark brown SILT w/ 10% organics. stiff. medium plasticity. (no sheen)
					ML			
Wet	0.6						11	Same as above. stiff. low-med. plasticity. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-25

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/26/2010
Date Completed: 10/26/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT. Boring was hand cleared to 8 feet bgs. FILL.
Dry	0				SW-SM		1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
							2	
							3	
							4	Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Moist	0		SB-25-4				5	
							6	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (moderate sheen)
Moist	38		SB-25-6		SW-SM		7	
							8	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose (heavy sheen)
Wet	184						9	
							10	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose (heavy sheen)
Moist	95		SB-25-10		SW-SM		11	
Moist	16		SB-25-11				12	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose (slight sheen)
							13	Bottom of borehole at 12.0 feet.

Soil Boring: SB-26

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/26/2010
Date Completed: 1/26/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
								FILL.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Dry	0.6		SB-26-2		SW-SM		2	
							3	
								Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Moist	1.0						4	
							5	
								(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (no sheen)
Wet	1.0		SB-26-6		SW-SM		6	
							7	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. (no sheen)
Wet	1.0						8	
							9	
								(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. (no sheen)
							10	
Moist	1.0		SB-26-11		SW-SM		11	
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-28

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/27/2010
Date Completed: 10/27/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT. Boring was hand cleared to 8 feet bgs. FILL.
Dry	0		SB-28-2		SW-SM		1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (slight sheen)
							2	
							3	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. (no sheen)
Moist	0						4	
							5	
Wet	4		SB-28-6		SW-SM		6	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. (no sheen)
							7	
							8	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. (slight sheen)
Moist	2		SB-28-9		SW-SM		9	
							10	(SW-SM) Dark brown, med. SAND w/ 5% silt and 5% shell fragments. (no sheen)
Moist	1		SB-28-11		SW-SM		11	
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-29

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/27/2010
Date Completed: 10/27/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 7 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 7 feet bgs.
								FILL.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (slight to moderate sheen)
Moist	75		SB-29-2		SW-SM		2	
							3	
								Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (moderate sheen)
Wet	185		SB-29-4				4	
							5	
								(SW-SM) Same as above. loose. (moderate sheen)
Wet	120		SB-29-6		SW-SM		6	
Wet	113		SB-29-7					Dark brown, med. SAND w/ 10% silt and <5% shell fragments. loose. (moderate to heavy sheen)
							7	Bottom of borehole at 7.0 feet.
							8	
							9	
							10	
							11	
							12	
							13	

Soil Boring: SB-30

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/27/2010
Date Completed: 10/27/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
							1	FILL.
Moist	852		SB-30-2		SW-SM		2	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							3	
Wet	814		SB-30-4				4	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							5	
Wet	197				SW-SM		6	(SW-SM) Dark brown, med. SAND w/ 10% silt and <5% shell fragments. loose. (moderate sheen)
							7	(ML) Dark brown SILT w/ 10% organics. soft. (no sheen)
Wet	4		SB-30-8		ML		8	
Wet	2						9	Dark brown SILT w/ 10% organics. stiff, low to med. plasticity. no sheen.
Wet	1		SB-30-10				10	(ML) Same as above. stiff, med. plasticity. (no sheen)
Wet	1				ML		11	
					SW-SM			(SW-SM) Dark brown, med. SAND w/ <5% silt. dense. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-31

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/27/2010
Date Completed: 10/27/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
							1	FILL.
Moist	288		SB-31-2		SW-SM		2	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							3	
Wet	300		SB-31-4				4	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							5	
Wet	250				SW-SM		6	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							7	
Wet	13				ML		8	(ML) Brown SILT w/ 10% organics. stiff, med. plasticity. (slight sheen)
Moist	1		SB-31-9				9	Brown SILT w/ 10% organics. stiff, med. plasticity. (no sheen)
Moist	1						10	(ML) Brown SILT w/ 10% organics. stiff, med. plasticity. (no sheen)
Moist	1		SB-31-11		ML		11	
					SW-SM		12	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (no sheen)
								Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-32

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/27/2010
Date Completed: 10/27/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
							1	FILL.
Moist	178		SB-32-2		SW-SM		2	(SW-SM) Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							3	
Moist	183						4	Dark brown, med. SAND w/ <5% silt and <5% shell fragments. loose. (heavy sheen)
							5	▼
Wet	185		SB-32-6		SW-SM		6	(SW-SM) Dark brown, med. SAND w/ < 5% silt and <5% shell fragments. loose. (moderate to heavy sheen)
								(ML) Dark brown SILT w/ 10% organics. soft. (moderate sheen)
					ML		7	
Wet	16		SB-32-8				8	Same as above. (no sheen)
Moist	3						9	(ML) Dark brown SILT w/ 10% organics. stiff. (no sheen)
Moist	1		SB-32-10		ML		10	Same as above. stiff. (no sheen)
Moist	1						11	
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-33

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/28/2010
Date Completed: 10/28/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
								FILL.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. loose. (moderate sheen)
Dry	61.9		SB-33-2		SW-SM		2	
							3	
								Dark brown, med. SAND w/ <5% silt. loose. (heavy sheen)
Moist	199.1						4	
							5	
								(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
Wet	320		SB-33-6		SW-SM		6	
								Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
							7	
Saturated	199.8							(SW-SM) Dark brown, med. SAND w/ 5-10% shell fragments. (heavy sheen)
					SW-SM		8	
								(ML) Dark brown SILT w/ < 5% fine sand. soft, low plasticity. (slight sheen)
Wet	8.5		SB-33-9		ML		9	
								Brown SILT w/ 15% organics. soft, low plasticity. (no sheen)
Moist	1.0						10	
								(ML) Same as above. soft. (no sheen)
Moist	0.8		SB-33-11		ML		11	
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-34

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/28/2010
Date Completed: 10/28/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	ASPHALT.
								Boring was hand cleared to 8 feet bgs.
								FILL.
							1	(SW-SM) Dark brown, med. SAND w/ 10% shell fragments. loose. (no sheen)
Dry	2.0		SB-34-2		SW-SM		2	
							3	
								Dark brown, med. SAND w/ 5% shell fragments. loose. (slight to moderate sheen)
Dry	10						4	
							5	
								(SW-SM) Dark brown, med. SAND w/ 10% shell fragments. loose. (heavy sheen)
Wet	107		SB-34-6		SW-SM		6	
								Same as above. (heavy sheen)
							7	
Saturated	44.6							(ML) Brown SILT w/ 10% sand. soft, low plasticity. (slight sheen)
					ML		8	
Saturated	2		SB-34-9				9	Brown SILT w/ organics. soft, low to med. plasticity. (no sheen)
Saturated	1		SB-34-10		ML		10	(ML) Brown SILT w/ 10% organics. soft, low to med. plasticity. (no sheen)
Saturated	1						11	Same as above. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-35

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/28/2010
Date Completed: 10/28/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	DEPTH (ft)	LITHOLOGY/DESCRIPTION
						0	ASPHALT. Boring was hand cleared to 8 feet bgs. FILL.
Dry	1.0				SW-SM	1	(SW-SM) Dark brown, med. SAND w/ 5% shell fragments. loose. (slight sheen0
						2	
						3	
					ML	4	(ML) Brown-gray SILT.
Moist	1.2		SB-35-4				(SW-SM) Dark brown, med. SAND w/ < 5% shell fragments. (v. slight sheen)
					SW-SM	5	
Moist	13.8		SB-35-6			6	Dark brown, med. SAND w/ 5% shell fragments. loose. (moderate sheen)
						7	
					SW-SM	8	(SW-SM) Dark brown, med. SAND w/ 10-15% shell fragments and <5% silt. loose. (slight sheen)
Wet	4.2		SB-35-8				
Wet	1					9	Dark brown, med. SAND w/ 10-15% shell fragments and <5% silt. loose. (slight sheen)
Moist	1		SB-35-10		SW-SM	10	(SW-SM) Dark brown, med. SAND w/ 10-15% shell fragments and <5% silt. loose. (no sheen)
Moist	0.8					11	Dark brown, med. SAND w/ 5% shell fragments. loose. (no sheen)
						12	Bottom of borehole at 12.0 feet.
						13	

Soil Boring: SB-36

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/28/2010
Date Completed: 10/28/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								FILL. Pieces of concrete and brick encountered. Boring was hand cleared to 8 feet bgs.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt. (no sheen)
Dry	0.8				SW-SM		2	
							3	
Moist	0.6						4	Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (slight sheen)
							5	
Wet	38		SB-36-6		SW-SM		6	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (slight sheen)
							7	
Saturated	10						8	Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (slight sheen)
Wet	4.6				SW-SM		9	(SW-SM) Dark brown, med. SAND w/ <10% silt and shell fragments. loose. (slight sheen)
Moist	5.6						10	Dark brown, med. SAND w/ <10% silt and shell fragments. loose. (very slight sheen)
Moist	3		SB-36-11		SW-SM		11	(SW-SM) Same as above. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-37

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: Andrew Lembrick
Date Started: 10/28/2010
Date Completed: 10/28/2010

Driller: Cascade Drilling
Drill Method: Hand Auger / Geoprobe
Total Boring Depth: 12 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								FILL. Boring was hand cleared to 8 feet bgs.
							1	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (no sheen)
Dry	0.6				SW-SM		2	
							3	
Dry	0.6						4	Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (no sheen)
							5	
Wet	90.7		SB-37-6		SW-SM		6	(SW-SM) Dark brown, med. SAND w/ <5% silt and shell fragments. loose. (heavy sheen)
							7	
Wet	3.2						8	Same as above. 5-10% shell fragments. (moderate sheen)
Moist	6.2				SW-SM		9	(SW-SM) Dark brown, med. SAND w/ 10% shell fragments and <5% silt. loose. (heavy sheen)
Moist	1.6						10	Dark brown, med. SAND w/ 5% shell fragments and <5% silt. loose. (slight sheen)
Moist	1.0		SB-37-11		SW-SM		11	(SW-SM) Dark brown, med. SAND w/ 5% shell fragments and <5% silt. (no sheen)
							12	Bottom of borehole at 12.0 feet.
							13	

Soil Boring: SB-38

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 5.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Top 2-inches asphalt
								Dark brown, loose, fine SAND with 5% silt and organics (FILL); no odor, no sheen.
Dry	0.6						1	
							2	
								Encountered 2-inch pipe at 2.5 feet
							3	
								Encountered 8-inch pipe at 3.7 feet
Moist	1.8		SB-38-4	G = 1.3 D = 8.3 HO = 21 B <0.0006			4	Same as above; no odor no sheen.
								(SP) Dark brown to gray, loose, fine to medium SAND with shells; no odor, no sheen.
Moist	0.6		SB-38-5	G <1.1 D = 5.8 HO = 32 B <0.0005	SP		5	
								Bottom of borehole at 5.5 feet.
							6	
							7	
							8	
							9	
							10	

Soil Boring: SB-39

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Top 2-inches asphalt
								Encountered concrete to 1 foot
							1	Dark brown, loose, fine to medium SAND with 5% silt, <5% gravel and some organics (<5%); no odor, no sheen.
Moist	1.8						2	
							3	
								(SP) Dark gray, loose, fine to medium SAND with shells, <5% gravel; no odor, no sheen.
Moist	0.6		SB-39-4	G <1.1 D = 13 HO = 140 B <0.0006	SP		4	
							5	
Moist	0.6		SB-39-6	G <1.3 D <3.1 HO <10 B <0.0006			6	Dark gray, loose, medium SAND with shells; no odor, no sheen.
								Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

Soil Boring: SB-40

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Topsoil and gravel.
								(SP) Dark brown, loose, fine to medium SAND with <5% silt and shells <5%; no odor, no sheen.
							1	
					SP			
							2	
Moist	0.6							
							3	
Moist	0.6		SB-40-3	G <1.1 D = 5.5 HO = 27 B = 0.0006				Same as above; no odor, no sheen. Encountered concrete at 3 feet. Encountered pipeline at 3.5 feet.
							4	
Moist	0.6		SB-40-4.5	G <1.2 D <3.2 HO <11 B <0.0006	SP			(SP) Dark gray, loose, medium SAND with 5% shells; no odor, no sheen.
							5	Bottom of borehole at 5.0 feet.
							6	
							7	
							8	
							9	
							10	

Soil Boring: SB-41

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2-inches of asphalt
								(SP) Dark gray, loose, medium SAND with 5% shells; no odor, no sheen.
Moist	1.8				SP		1	
							2	
							3	
Moist	0.6		SB-41-4	G <1.3 D <3.2 HO <11 B <0.0006			4	Same as above; no odor, no sheen.
							5	
Moist	1.8		SB-41-6	G <1.3 D <3.2 HO <11 B <0.0006	SP		6	(SP) Same as above; no odor, no sheen.
								Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

Soil Boring: SB-42

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Dark gray, loose, medium SAND with 5% shells; no odor, no sheen.
Moist	0.6						1	
							2	
							3	
Moist	1.8		SB-42-4	G <1.2 D <3.1 HO <10 B <0.0006	SP		4	(SP) Same as above; no odor, no sheen.
							5	
Moist	0.6		SB-42-6	G <1.2 D <3.2 HO <11 B <0.0006			6	Same as above; no odor, no sheen.
								Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

Soil Boring: SB-43

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	6-inches of roots.
								(SP-GP) Brown, dense, fine to medium SAND/small to medium GRAVEL; no odor, no sheen.
							1	
Moist	0.6				SP-GP		2	Cobbles at 2.5 feet.
							3	
								(SP) Dark gray, loose, medium SAND with <5% shells and roots; no odor, no sheen.
Moist	0.6		SB-43-4	G <1.2 D <3.2 HO <11 B = 0.001	SP		4	
							5	
Moist	0.6		SB-43-6	G <1.3 D = 5.7 HO = 25 B <0.0006			6	Dark gray, loose, medium SAND with <5% shells; no odor, no sheen.
								Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

Soil Boring: SB-44

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	(SP) Dark gray, loose, fine to medium SAND; no odor, no sheen.
Moist	0.6				SP		2	
Moist	0.6		SB-44-4	G <1.2 D <3.1 HO <10 B = 0.0006			4	Dark gray, loose, medium SAND; no odor, no sheen.
Moist	0.6		SB-44-6	G <1.3 D <3.3 HO <11 B <0.0006	SP		6	(SP) Dark gray, loose, medium SAND with 5% shells; no odor, no sheen.
							6.5	Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

Soil Boring: SB-45

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: J. Green
Date Started: 6/27/2012
Date Completed: 6/27/2012

Driller: Cascade Drilling
Drill Method: Hand Auger
Total Boring Depth: 6.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	(SP) Dark gray, loose, medium SAND; no odor, no sheen.
							1	
Moist	0.6				SP		2	
							3	
Moist	0.6		SB-45-4	G <1.2 D = 6.7 HO = 12 B = 0.0006			4	Dark gray, loose, medium SAND with <5% shells and roots; no odor, no sheen. Encountered pipeline at 4 feet.
							5	
Moist	0.6		SB-45-6	G = 1.2 D = 130 HO = 500 B = 0.0006	SP		6	(SP) Dark gray, loose, medium SAND; no odor, no sheen.
								Bottom of borehole at 6.5 feet.
							7	
							8	
							9	
							10	

SAIC

18912 North Creek Parkway
Bothell, WA 98011

Soil Boring: SB-46

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/8/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" ASPHALT
								Bricks, cobbles, concrete, silty SAND; no odor, no sheen. (FILL)
							1	
							2	
Dry	0.1						3	Dark brown, loose, fine to medium SAND with 5% silt; no odor, slight sheen.
Dry	0.1				SP		4	(SP) Same as above; no odor, no sheen.
Moist	0.3		SB-46-5	G <13 D = 410 HO = 970 B = 0.007	SP		5	(SP) Same as above with 5% gravel rounded and <5% shell fragments; slight odor, no sheen.
Wet	317						6	(SP) Same as above with 5% gravel rounded and <5% shell fragments; slight odor, no sheen.
Wet	597		SB-46-7	G = 2,500 D = 630 HO <28 B <0.041	SP		7 ▼	
Moist	1.3				SP		8	(SP) Same as above with 10% shell fragments; strong odor, heavy sheen. Same as above with 5% shell fragments; slight odor, heavy sheen.
Moist	0.6				ML		9	(ML) Dark brown, soft SILT, with medium plasticity and organics; slight odor, no sheen.
Moist	0.7		SB-46-10	G <1.7 D <4.3 HO <14 B <0.0007	SM		10	(SM) Dark brown, silty SAND; no odor, no sheen
	0.7				ML			(ML) Dark brown, stiff SILT with <5% sand and medium plasticity; no odor, no sheen.
							11	
Moist	0.4						12	Same as above; soft with soft medium plasticity; no odor, no sheen
Moist	0.3		SB-46-13	G <1.8 D <4.4 HO <15 B <0.0007				Same as above; soft with medium plasticity; no odor, no sheen
							13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-47

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/8/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" Asphalt
								Bricks, concrete, gravel, and soil; no odor, no sheen. (FILL)
							1	
							2	
Dry	0.1				SP		3	(SP) Dark brown, loose, fine to medium SAND with 5% silt and 5% gravel; no odor, no sheen.
Dry	0.1		SB-47-4	G = 22 D = 320 HO = 670 B = 0.015			4	Same as above; no odor, no sheen.
Moist	1.9						5	Same as above with 10% cobbles; no odor, no sheen.
Moist	3.1		SB-47-6	G = 63 D = 320 HO = 650 B = 0.002			6	Same as above; no odor, very slight sheen.
Moist	0.7		SB-47-7	G = 21 D = 310 HO = 650 B = 0.004	SP		7	(SP) Same as above with 10% gravel; no odor, no sheen.
							8	Same as above with 5% silt and 10% shell fragments; no odor, no sheen.
Wet	1.3							
Moist	0.1						9	(ML) Dark brown stiff SILT with medium plasticity; no odor, no sheen.
					ML			
Moist	0.8		SB-47-10	G <19 D <4.5 HO <15 B = 0.009			10	Dark gray, stiff SILT with medium plasticity; no odor, no sheen.
Moist	0.3						11	Same as above; no odor, no sheen
Moist	0.3						12	Same as above; no odor, no sheen
Moist	0.3		SB-47-13	G <1.7 D <4.2 HO <14 B = 0.003	SM		13	(SM) Dark brown-gray, dense, silty SAND; no odor, no sheen.
								Bottom of borehole at 13.0 feet.
							14	

SAIC

18912 North Creek Parkway
Bothell, WA 98011

Soil Boring: SB-48

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/8/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" asphalt
								FILL. Bricks, cement, gravel. Cleared to 2' with vac truck. Cleared to 8' with hand auger
							1	
							2	
Dry	0.0				SP		3	(SP) Dark brown, loose SAND with 5% silt; no odor, no sheen
Dry	0.1		SB-48-4	G <12 D = 270 HO = 540 B = 0.022			4	Same as above with 5% gravel, brick debris, and some shell fragments; no odor, no sheen.
Moist	122.7		SB-48-5	G = 500 D = 2,000 HO = 1,300 B = 0.01			5	Same as above; moderate odor, moderate sheen.
Moist	118.3						6	Same as above; moderate odor, heavy sheen.
Wet	21.5		SB-48-7	G = 73 D = 170 HO = 170 B = 0.003	SP		7	(SP) Same as above with 5% shell fragments.
Wet	0.7						8	Same as above; no odor, no sheen.
					ML			(ML)
Moist	0.4		SB-48-9	G = 9.0 D <4.6 HO <15 B = 0.002			9	Dark brown, stiff SILT with 5% organics and medium plasticity; no odor, no sheen.
Moist	0.9						10	Same as above; no odor, no sheen.
Moist	1.1		SB-48-11	G <1.8 D <4.4 HO <15 B <0.0008	ML		11	(ML) Same as above; no odor, no sheen.
Moist	0.6						12	Same as above; no odor, no sheen.
Moist	0.8				SP-SM		13	(SP-SM) Dark brown, fine to medium, loose SAND with 10% silt; no odor, no sheen.
								Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-49

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/8/2013
Date Completed: 7/8/2013

Driller: SAIC
Drill Method: Hand Auger
Total Boring Depth: 4.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
					FILL		0	(FILL) Fill.
Saturated	0.0		SB-49-1	G = 7.9 D = 270 HO = 770 B = 0.005	SP		1	(SP) Dark brown, medium dense, medium SAND with <5% silt and some bricks; no odor, no sheen.
Saturated	15.6		SB-49-2	G <14 D = 160 HO = 250 B = 0.004	SP		2	(SP) Same as above; slight odor, no sheen.
Saturated	1.7		SB-49-3	G = 24 D <4.1 HO <14 B = 0.002	SP		3	(SP) Same as above; slight odor, no sheen.
Saturated	20				SP		4	(SP) Same as above; moderate odor, no sheen.
								Bottom of borehole at 4.5 feet.
							5	
							6	
							7	
							8	
							9	
							10	
							11	
							12	
							13	
							14	

Soil Boring: SB-50

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/8/2013
Date Completed: 7/8/2013

Driller: SAIC
Drill Method: Hand Auger
Total Boring Depth: 4.5 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
					FILL		0	(FILL) Fill.
Saturated	0.0		SB-50-1	G <13 D = 87 HO = 180 B = 0.003	SP		1	(SP) Gray, medium dense, silty, fine to medium SAND; no odor, no sheen.
Saturated	119		SB-50-2	G = 430 D = 1,200 HO <65 B <0.0006			2	Gray, medium dense, medium SAND with <5% silt and shells; moderate odor, slight sheen.
Saturated	20				SP		3	(SP) Same as above; slight odor, no sheen.
Saturated	55		SB-50-4	G = 80 D <4.4 HO <15 B = 0.004			4	Same as above; moderate odor, no sheen.
								Bottom of borehole at 4.5 feet.
							5	
							6	
							7	
							8	
							9	
							10	
							11	
							12	
							13	
							14	

Soil Boring: SB-51

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/9/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" asphalt.
								FILL gravel.
							1	Cleared with airknife to 8'. Recleared with hand auger.
							2	
Moist	0.9							Dark brown, loose, fine to medium SAND with 10% silt; no odor, no sheen.
Moist	0.7		SB-51-3	G <1.2 D <3.5 HO <12 B <0.0005			3	Same as above; no odor, no sheen.
Wet	185		SB-51-4	G = 120 D <4.0 HO <13 B = 0.001	SP		4	(SP) Same as above with 5% silt and <5% shell fragments; no odor, slight sheen.
Saturated	66						5	Same as above; no odor, slight sheen. Hole caving due to saturation.
							6	
								(ML) No samples collected from 5.5' to 8'
					ML		7	
	1.2						8	Dark brown, stiff SILT with <5% sand and medium plasticity; no odor, very slight sheen.
Moist	0.8						9	Same as above; no odor, no sheen.
Moist	1.0		SB-51-10	G <1.6 D <4.1 HO <14 B <0.0006				Same as above; no odor, no sheen.
							10	
								(SP) Dark brown, loose, fine to medium SAND with 5% silt. (no odor, no sheen)
Moist	0.5				SP		11	Same as above; no odor, no sheen.
Moist	0.4		SB-51-12	G <1.3 D <3.8 HO <13 B <0.0005			12	Same as above; no odor, no sheen.
Moist	0.2						13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-52

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/9/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" asphalt.
								FILL. Bricks, concrete, gravel.
							1	
							2	
							3	(SP) Dark brown, loose, fine to medium SAND with 5% silt and <5% shell fragments; no odor, no sheen.
Dry	0.5				SP			
Dry	0.6		SB-52-4	G <1.2 D <3.3 HO <11 B <0.0006			4	Same as above; no odor, no sheen.
Wet	1.5						5	(SP) Same as above; no odor, no sheen.
					SP		6	
							7	(ML) Dark brown, stiff SILT with <5% sand; no odor, no sheen.
Moist	0.4		SB-52-8	G <1.7 D <4.1 HO <14 B <0.0006	ML		8	
Moist	0.4						9	Same as above; no odor, no sheen.
Moist	0.2						10	Same as above; no odor, no sheen.
					ML			(ML) Same as above; no odor, no sheen.
Moist	0.2		SB-52-11	G <1.6 D <4.1 HO <14 B <0.0006			11	Dark brown, soft, sandy SILT.
								(SP) Dark brown, loose, fine to medium SAND; no odor, no sheen.
Moist	1.1				SP		12	
Moist	0.6						13	
								Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-53

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/9/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2" asphalt.
								FILL, gravel. Odor noted at 2 feet bgs.
							1	
							2	
Moist	382		SB-53-2.5	G = 1,800 D = 3,400 HO = 1,800 B <0.028				Dark brown, loose, fine to medium SAND with 5% silt and <5% shell fragments; no odor, no sheen.
Moist	285						3	
Moist	437		SB-53-4	G = 1,400 D = 4,300 HO = 2,600 B <0.031	SP		4	(SP) Same as above; slight odor, slight sheen.
Wet	357						5	Silty sand with shell fragments; no odor, slight to moderate sheen.
							6	6-8' no samples collected because of sloughing
							7	
Moist	114.7				ML		8	(ML) Dark brown, stiff SILT with medium plasticity and 5% sand; no odor, no sheen.
Moist	1.3		SB-53-9	G <1.6 D <4.1 HO <14 B <0.0006			9	Same as above; no odor, no sheen.
Moist	1.2						10	Same as above; no odor, no sheen.
Moist	0.8				ML		11	(ML) Dark brown, stiff sandy SILT with medium plasticity; no odor, no sheen.
								(SP) Dark brown, loose SAND with 5% silt; no odor, no sheen.
Wet	0.4		SB-53-12	G <1.6 D <4.3 HO <14 B <0.0007	SP		12	
Wet	0.2							Same as above; no odor, no sheen.
							13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-54

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/9/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	2-3" asphalt
					FILL			(FILL) FILL.
							1	
							2	
							3	(SP) Dark brown, silty SAND with shell fragments; no odor, slight sheen.
Moist	17.0				SP			
Moist	257		SB-54-4	G = 2,100 D = 9,800 HO = 3,700 B <0.030			4	Same as above; slight to moderate odor, moderate sheen.
Moist	206						5	(SP) Same as above; strong odor, moderate sheen.
					SP			
Saturated	51		SB-54-6	G = 120 D = 300 HO = 120 B <0.038			6	Same as above; slight to moderate odor, moderate sheen.
							7	
Moist	13.6				SM		8	(SM) Dark brown, loose, fine to medium, silty SAND; no odor, slight sheen.
Moist	0.9		SB-54-9	G <1.9 D <4.6 HO <15 B <0.0007	ML		9	(ML) Dark brown, stiff SILT with 5% sand and medium plasticity; no odor, no sheen.
Moist	0.6						10	Same as above with 5% organics; no odor, no sheen.
Moist	0.6						11	Same as above; no odor, no sheen.
Saturated	0.6		SB-54-13	G <1.8 D <4.4 HO <15 B <0.0007	ML		12	(ML) Dark brown, very soft SILT with <5% sand; no odor, no sheen.
Saturated	0.6							Same as above; no odor, no sheen.
							13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-55

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/11/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								Gravel to 6". Cleared boring to 8' with hand auger
Dry	0.4				SP		1	(SP) Dark brown, loose, fine to medium SAND with <5% organics and 5% silt; no odor, no sheen.
Dry	0.4						2	Same as above; no odor, no sheen.
Dry	2.2		SB-55-3	G <1.2 D <3.1 HO <10 B = 0.001			3	Same as above with <5% silt and 10% shell fragments; no odor, no sheen.
Moist	211				SP		4	(SP) Same as above; moderate odor, slight sheen.
Moist	302		SB-55-5	G = 5,200 D = 16,000 HO <1,100 B <0.030			5	Same as above; strong odor, heavy sheen.
Moist	203						6	Same as above with <5% silt and 5% shell fragments; moderate odor, moderate sheen.
Moist	114.7				SP		7	(SP) Same as above; moderate odor, moderate sheen.
Wet	1.9		SB-55-8	G = 5.2 D <4.7 HO <16 B <0.0007			8 ▼	Same as above; no odor, no sheen.
Moist	1.9				ML		9	(ML) Dark brown, soft SILT with medium plasticity; no odor, no sheen.
Moist	2.8						10	Same as above with organics; no odor, no sheen.
Moist	2.9		SB-55-11	G <1.8 D = 4.7 HO <14 B <0.0007			11	Olive gray-brown, stiff SILT; no odor, no sheen.
Moist	1.7				ML		12	(ML) Same as above; no odor, no sheen.
Moist	1.6				SP		13	(SP) Dark brown, loose, fine to medium SAND with 5% silt; no odor, no sheen.
								Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-56

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/10/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Fill.
Dry	0.4						1	Dark gray, loose, fine to medium SAND; no odor, slight sheen.
Dry	0.4		SB-56-2	G <1.3 D = 7.5 HO <10 B <0.0006	SP		2	(SP) Same as above; no odor, no sheen.
Dry	0.5						3	Same as above with shells; no odor, no sheen.
Moist	0.4						4	Same as above with 40% shells at 5.5 feet; no odor, no sheen.
Wet	0.3		SB-56-5	G <1.6 D <3.8 HO <13 B <0.0007			5	Same as above with <5% silt; no odor, no sheen.
Saturated	0.5				SP		6	(SP) Same as above; no odor, no sheen.
Saturated	0.5						7	Same as above with shells; no odor, no sheen.
Moist	0.9		SB-56-8	G <23 D <4.6 HO <15 B <0.0008			8	Same as above; slight odor, no sheen.
Moist	0.7				ML		9	(ML) Dark brown stiff SILT with <5% sand, medium plasticity, and some organics; no odor, no sheen.
Moist	0.7						10	Same as above; no odor, no sheen.
Wet	0.6						11	Same as above; becomes soft at 11.5 feet; no odor, no sheen.
Moist	0.6		SB-56-12	G <1.5 D <3.8 HO <13 B <0.0006	SP		12	(SP) Dark gray, loose, fine to medium SAND; no odor, no sheen. Same as above; no odor, no sheen.
Moist	0.5						13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-57

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/10/2013
Date Completed: 7/12/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Fill.
Moist	0.0				SP		1	(SP) Dark gray, loose, fine to medium SAND; no odor, no sheen.
Moist	0.0						2	Same as above; no odor, no sheen.
Wet	0.0		SB-57-3	G = 7.8 D = 96 HO = 27 B = 0.0006			3	Same as above; no odor, no sheen.
Saturated	1135		SB-57-4	G = 2,400 D = 390 HO <13 B <0.075			4	Same as above; strong odor, no sheen.
Saturated	1134				SP		5	(SP) Same as above; strong odor, slight sheen.
Saturated	560						6	Same as above; strong odor, slight sheen.
Saturated	367						7	Same as above; moderate odor, no sheen.
Moist	8.8				ML		8	(ML) Dark gray/brown, stiff sandy SILT with fine to medium sand and medium plasticity; no odor, no sheen.
Moist	1.0		SB-57-9	G <1.8 D <4.5 HO <15 B <0.0007	ML		9	(ML) Dark brown, stiff SILT with medium plasticity and 5% organics, no odor, no sheen.
Moist	0.8						10	Same as above; no odor, no sheen.
							11	Same as above; no odor, no sheen.
Moist	1.1				ML		12	(ML) Dark brown, stiff sandy SILT with fine to medium sand and medium plasticity; no odor, no sheen.
Moist	1.3		SB-57-13	G <1.5 D <3.9 HO <13 B <0.0006	SP		13	(SP) Dark brown, loose, fine to medium SAND; no odor, no sheen.
							14	Bottom of borehole at 13.0 feet.

Soil Boring: SB-58

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/10/2013
Date Completed: 7/11/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	FILL.
Dry	0.3						1	Dark brown, loose, fine to medium SAND with 5% silt; no odor, no sheen.
					SP		2	(SP) Whole bricks at 2.5 ft bgs
Dry	0.3		SB-58-2	G <13 D = 340 HO = 900 B <0.0006				Dark brown, loose, fine to medium SAND; no odor, no sheen.
Moist	160						3	Same as above with 5% silt; slight odor, slight sheen.
Wet	602		SB-58-4	G = 760 D = 3,600 HO = 2,300 B <0.038			4	Same as above; moderate odor, heavy sheen.
Wet	435				SP		5	(SP) Same as above; moderate odor, heavy sheen.
Wet	220						6	Same as above; slight odor, slight sheen.
Wet	316						7	Same as above; slight odor, slight sheen.
							8	Dark brown, soft, sandy SILT with medium plasticity.
Moist	2.9							(ML) Dark brown, stiff SILT with medium plasticity; no odor, no sheen.
Moist	1.9		SB-58-9	G <2.0 D <4.9 HO <16 B <0.0007	ML		9	
Moist	3.1						10	Dark brown, stiff, sandy SILT with low plasticity; no odor, no sheen.
Moist	2.0						11	Dark brown, stiff SILT with <5% sand; no odor, no sheen.
Wet	1.7		SB-58-12	G <1.3 D <3.7 HO <12 B <0.0006	SM		12	(SM) Dark brown, silty SAND; no odor, no sheen.
Wet	1.1				SP			(SP) Dark brown, fine to medium SAND; no odor, no sheen.
							13	Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-59

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/10/2013
Date Completed: 7/12/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
					Fill		0	(Fill) Boring cleared to 8' by hand auger
Dry	0.9				SP		1	(SP) Dark brown, loose, fine to medium SAND with <5% silt; no odor, no sheen.
Moist	0.0				SM		2	(SM) Reddish brown, fine, loose, silty SAND; no odor, no sheen.
Moist	0.5		SB-59-3	G <1.2 D = 240 HO <11 B <0.0005	SP		3	(SP) Dark brown, loose, fine to medium SAND with 5% silt; no odor, no sheen.
Moist	2.0						4	Same as above; no odor, no sheen.
Wet	565		SB-59-5	G = 1,200 D = 6,000 HO <270 B <0.038			5	Same as above; strong odor, moderate sheen.
Wet	511				SP		6	(SP) Same as above with 5% shell fragments; slight odor, slight sheen.
Wet	268						7	Same as above with 10% shell fragments; slight odor, no sheen.
Moist	2.2				SM		8	(SM) Dark brown, silty SAND; no odor, no sheen.
Moist	0.9		SB-59-9	G = 3.5 D <4.3 HO <14 B <0.0007	ML		9	(ML) Dark brown, stiff SILT with medium plasticity; no odor, no sheen.
Moist	0.8						10	Same as above; no odor, no sheen.
Moist	0.7						11	Same as above; no odor, no sheen.
Moist	0.4		SB-59-12	G <1.7 D <4.2 HO <14 B <0.0007	ML		12	(ML) Dark brown, soft, sandy SILT with medium plasticitiy; no odor, no sheen.
Moist	0.6				SP		13	(SP) Dark brown, loose, fine to medium SAND; no odor, no sheen.
								Bottom of borehole at 13.0 feet.
							14	

Soil Boring: SB-60

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA

Logged By: A. Lembrick
Date Started: 7/10/2013
Date Completed: 7/12/2013

Driller: Cascade Drilling
Drill Method: Hand Auger / Direct Push
Total Boring Depth: 13 ft
Elevation: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Gravel FILL. Cleared boring to 8' bgs with hand auger.
Dry	0.9						1	Dark brown, loose, fine to medium SAND with 5% silt; no odor, no sheen.
Moist	0.5				SP		2	(SP) Dark brown, loose, fine to medium SAND; no odor, no sheen.
Moist	0.5						3	Same as above; no odor, no sheen.
Moist	0.8		SB-60-4	G <13 D = 250 HO = 88 B = 0.003			4	Same as above; no odor, no sheen.
Moist	2.7						5	Same as above; no odor, no sheen.
Moist	302.1				SP		6	(SP) Same as above; moderate odor, moderate sheen.
Wet	870		SB-60-7	G = 2,000 D = 8,400 HO <350 B <0.040			7	Dark brown, loose, fine to medium SAND with 5% shell fragments; moderate odor, heavy sheen.
Wet	2.6						8	Same as above; slight odor, no sheen.
Moist	0.4		SB-60-9	G = 5.0 D <4.7 HO <16 B = 0.018	SM		9	(SM) Dark brown, loose, fine to medium, silty SAND; no odor, no sheen.
Moist	0.3				ML		10	(ML) Dark brown, stiff SILT with 5% sand and medium plasticity; no odor, no sheen.
Moist	0.4						11	Dark brown, stiff, sandy SILT with low pasticity; no odor, no sheen.
Moist	0.3				ML		12	(ML) Dark brown, stiff SILT with medium plasticity; no odor, no sheen.
Moist	0.4		SB-60-13	G <1.8 D <4.2 HO <14 B <0.0007				Same as above; no odor, no sheen.
							13	Bottom of borehole at 13.0 feet.
							14	

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: SB-65
PAGE 1 of 1

PROJECT: 1001348
LOCATION: ~~1656 E J St~~, Tacoma 540 E 15th St
CLIENT: CEMC
DATE: 7/10/14
LOGGED BY: AL/KL

DRILLER: Cascade
DRILL METHOD: AK/Vac
SAMPLE METHOD: HA
HOLE DIAMETER: 3.25"
HOLE DEPTH: 6.0

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

NA

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						1		Gravel (6 in)	
						2		Dark brown, loose, ~~med~~ to fine SAND with <5% silt; ~~no odor, no sheen~~ KL	
						3			
▽	W	0.4				4		SAA; no odor, no sheen	
						5			
	W	0.5				6		SAA; no odor, no sheen	
						7		Collected sample SB-65-5.0 @ 0810	
						8			
						9			
						10			
						11			
						12			
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: SB-66
PAGE 1 of 1

PROJECT:	1001348	DRILLER: Cascade	WELL DIAMETER:
LOCATION:	~~1656 E J St, Tacoma~~ 540 E 15th St	DRILL METHOD: AR/Vac	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD: HA	WELL CASING: NA
DATE:	7/10/14	HOLE DIAMETER: 3.25"	WELL SCREEN:
LOGGED BY:	AL/KL	HOLE DEPTH: 6.5'	FILTER PACK:
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						1 12		Gravel (6in)	
								Gray, med to large COBBLES with SAND (FILL)	
						2 13			
	M	0.0				3 14		Dark brown, loose, med to fine SAND; no odor, no sheen	
						4 15			
▽	W	409				5 16		SAA; no odor, no sheen	
	W	148						Collected SB-66-5.0 @0910	
						6 17		Dark brown, med to fine SAND with 10% silt; no odor, no sheen	
						7 18		Collected SB-66-6.0 @ 0920 -did not collected	
						19		KL 7/10/14	
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: SB-67

PAGE 1 of 1

PROJECT:	1001348	DRILLER: Cascade	WELL DIAMETER:
LOCATION:	~~1656 E J St~~, Tacoma SIDE 15th St	DRILL METHOD: AK/VAC	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD: HA	WELL CASING:
DATE:	7/10/14	HOLE DIAMETER: 3.25"	WELL SCREEN:
LOGGED BY:	AL/KL	HOLE DEPTH: 6.0	FILTER PACK: NA
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						12		Gravel / fill (2.5 ft)	
						13			
	M	2.0				14		Dark brown fine to med loose SAND w/ <5% silt. Creosote, no sheen	
						15			
	M	2.9				16		Dark brown, fine to med loose SAND with 5% silt; no odor, no sheen	
						17		Collected SB-67-5.0 @1020	
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: SB-68
PAGE 1 of 1

PROJECT:	1001348	DRILLER: Cascade	WELL DIAMETER:
LOCATION:	~~540~~ E 15th St, 1656 E J St, Tacoma	DRILL METHOD: AK/VAC	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD: NA	WELL CASING:
DATE:	7/10/14	HOLE DIAMETER: 3.25"	WELL SCREEN:
LOGGED BY:	AL/KV	HOLE DEPTH: 6.0	FILTER PACK: NA
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						12		Gravel (6in)	
								Gray COBBLES (fill	
						13			
								Dark Brown, loose, med to fine SAND with ~5% silt; no odor, no sheen	
M		2.8				14			
						15			
W		1.9				16		SAA; no odor, no sheen	
								Collected SB-68-5.0 @ 1125	
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: SB-69
PAGE 1 of 1

PROJECT:	1001348	DRILLER: Cascade	WELL DIAMETER:
LOCATION:	~~1656 E J St~~, Tacoma (SW E 15th St)	DRILL METHOD: AK/Vac	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD: HA	WELL CASING:
DATE:	7/10/14	HOLE DIAMETER: 3.25"	WELL SCREEN: NA
LOGGED BY:	AK/KL	HOLE DEPTH: 6.0	FILTER PACK:
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						1 2		Gravel / Fill (2ft)	
						2 3			
	M	47.8				3 4		Dark brown, loose, med to fine SAND with <5% silt; no odor, no sheen	
						4 5			
AT WL	M	37.9				5 6		SAA; no odor, no sheen Collected sample SB-69-5.0 @1250	
						6 7			
						7 8			
						19			
						20			
						21			
						22			

NOTES:

SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: MW-18

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

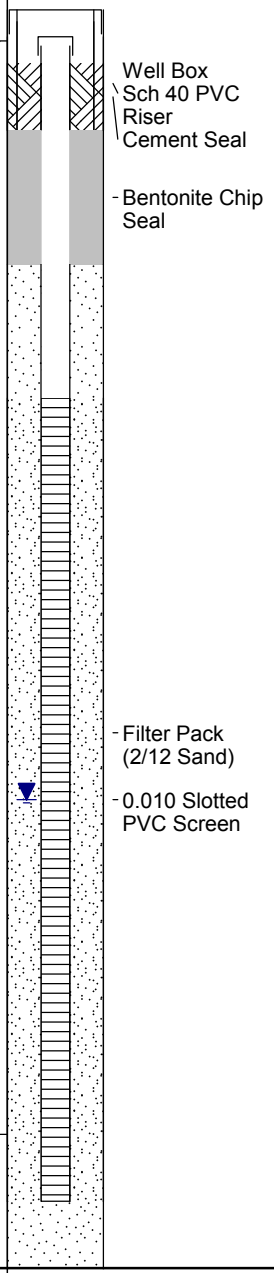
Date Started: 7/26/2010
Date Completed: 7/28/2010
Driller: Cascade Drilling
Drill Method: Airknife/ Hollow Stem Auger

Total Boring Depth: 9.5 ft
Hole Diameter: 10/8 in
Well Depth: 9 ft
TOC Elevation: 104.12 ft

Well Diameter: 2 in
Well Screen: 3-9 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	FILL.
									Boring was cleared by airknife to 8 feet bgs.
									(SW-SM) Dark brown, fine to med. SAND w/ 5% silt. loose. (slight sheen)
Dry	16			MW-18-2		SW-SM		1	
								2	
								3	SAME AS ABOVE; w/ <5% silt. (no sheen)
Dry	26.7							4	
								5	
									(SW-SM) SAME AS ABOVE; w/ 5% shell fragments. (slight sheen)
Wet	765			MW-18-6		SW-SM		6	
								7	
Wet	1444								SAME AS ABOVE; w/ 5% shell fragments. (slight sheen)
				MW-18-8.5				8	
Moist		2 2 2							(ML) Brown SILT w/ 5% plant fragments. soft, med. plasticity. (no odor, no sheen)
	0.1			MW-18-9.5		ML		9	
									Bottom of borehole at 9.5 feet.
								10	
								11	

WELL DIAGRAM



SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: MW-19

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

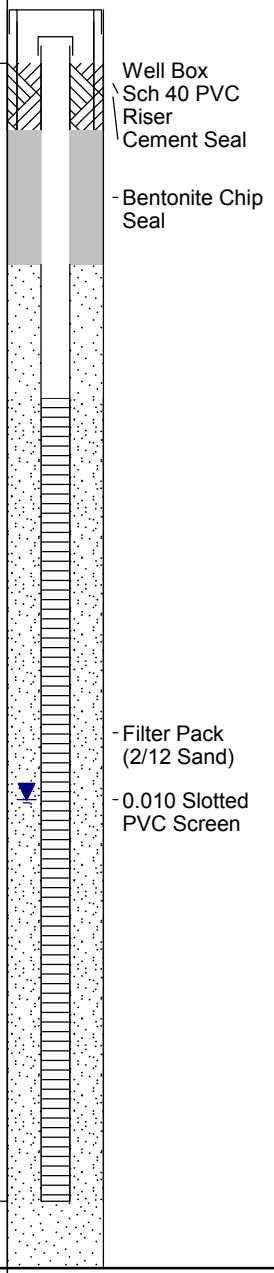
Date Started: 7/26/2010
Date Completed: 7/27/2010
Driller: Cascade Drilling
Drill Method: Airknife/ Hollow Stem Auger

Total Boring Depth: 9.5 ft
Hole Diameter: 10/8 in
Well Depth: 9 ft
TOC Elevation: 101.41 ft

Well Diameter: 2 in
Well Screen: 3-9 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	FILL.
									Boring was cleared by airknife to 8 feet bgs.
									(SW-SM) Dark brown, fine to med. SAND w/ some organic roots. loose. (no sheen)
Dry	94.1			MW-19-2		SW-SM		1	
								2	
								3	Dark brown, fine to med. SAND. loose. (strong odor, heavy sheen)
Dry	424			MW-19-4				4	
								5	
									(SW-SM) SAME AS ABOVE; w/ 5% shell fragments. (slight sheen)
Wet	284					SW-SM		6	
								7	
Wet	319			MW-19-8					SAME AS ABOVE. (moderate odor)
								8	
Moist	11.3			MW-19-9		ML		9	(ML) Dark brown SILT w/ 10% sand, 5% organics. (no sheen, hydrocarbon odor)
									Bottom of borehole at 9.5 feet.
								10	
								11	

WELL DIAGRAM



SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: MW-20

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

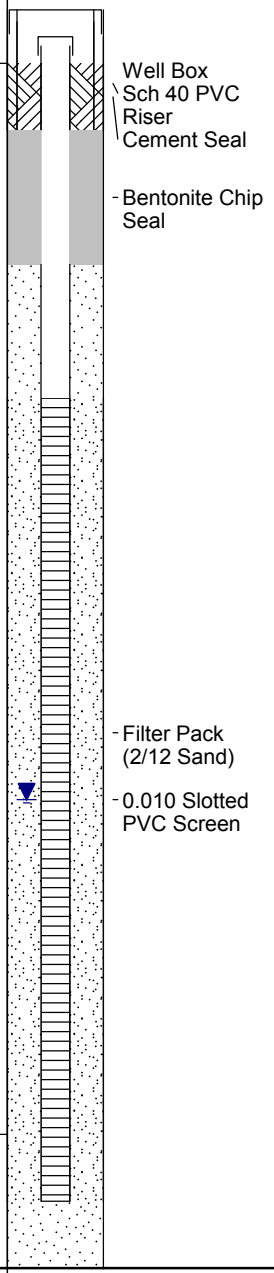
Date Started: 7/26/2010
Date Completed: 7/27/2010
Driller: Cascade Drilling
Drill Method: Airknife/ Hollow Stem Auger

Total Boring Depth: 9.5 ft
Hole Diameter: 10/8 in
Well Depth: 9 ft
TOC Elevation: 100.99 ft

Well Diameter: 2 in
Well Screen: 3-9 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	FILL. Boring was cleared by airknife to 8 feet bgs.
Dry	145			MW-20-2		SW-SM		1	(SW-SM) Dark brown, fine to med. SAND w/ < 5% silt.
								2	Dark brown, fine to med. SAND w/ 5% silt. loose. (strong odor, soil staining observed)
								3	
Dry	246			MW-20-4				4	(SW-SM) Dark brown SAND w/ < 5% silt. loose. (heavy sheen, strong odor)
						SW-SM		5	
Wet	350			MW-20-6				6	SAME AS ABOVE; w/ < 5% shell fragments. loose. (heavy sheen, strong odor)
								7	
Wet	183								(SW-SM) Dark brown, fine to med. SAND w/ 10% silt. (heavy sheen, strong odor)
Wet	24.0	2 2 2		MW-20-8.5		SW-SM		8	
Moist	0.1			MW-20-9.5		ML		9	(ML) Brown SILT w/ 5% sand. soft, med. to high plasticity. some organic material. (no sheen)
									Bottom of borehole at 9.5 feet.
								10	
								11	

WELL DIAGRAM



SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: MW-21

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

Date Started: 7/26/2010
Date Completed: 7/27/2010
Driller: Cascade Drilling
Drill Method: Airknife/ Hollow Stem Auger

Total Boring Depth: 9.5 ft
Hole Diameter: 10/8 in
Well Depth: 9 ft
TOC Elevation: 100.60 ft

Well Diameter: 2 in
Well Screen: 3-9 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	ASPHALT.
									Boring was cleared by airknife to 8 feet bgs.
									FILL. Loose sand with concrete, bricks and cobble.
								1	
Dry	140			MW-21-2		SW-SM		2	(SW-SM) Dark brown, fine to med. SAND w/ 5% gravel. (v. slight sheen)
								3	
Dry	15.8			MW-21-4				4	Brown, fine to med. SAND w/ 10% silt and 10% gravel. loose. (no sheen)
								5	
Wet	529			MW-21-6				6	(SW-SM) Dark brown, fine to med. SAND w/ 5% silt. loose. (moderate sheen) hydrocarbon odor.
						SW-SM		7	
Wet	147.2	4 5 4						8	
	105.7			MW-21-9		ML			(ML) Dark brown SILT w/ <10% sand. (moderate sheen)
								9	
									Bottom of borehole at 9.5 feet.
								10	
								11	

WELL DIAGRAM

- Well Box
- Sch 40 PVC Riser
- Cement Seal
- Bentonite Chip Seal
- Filter Pack (2/12 Sand)
- 0.010 Slotted PVC Screen

SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: MW-22

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

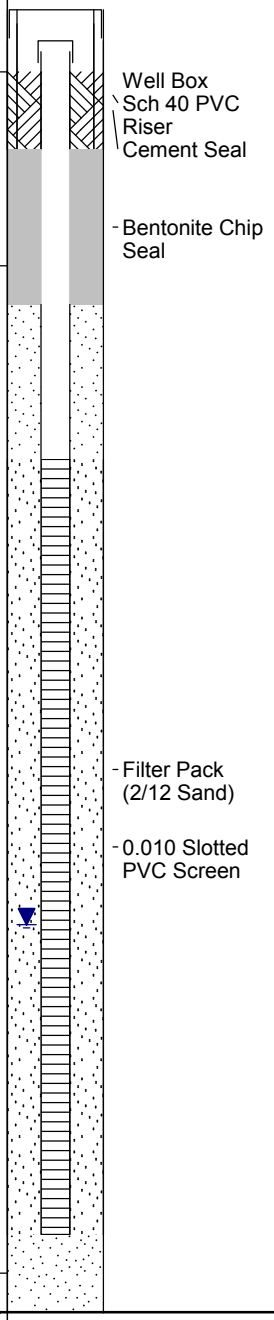
Date Started: 7/27/2010
Date Completed: 7/27/2010
Driller: Cascade Drilling
Drill Method: Airknife

Total Boring Depth: 8.5 ft
Hole Diameter: 10/8 in
Well Depth: 8 ft
TOC Elevation: 100.64 ft

Well Diameter: 2 in
Well Screen: 3-8 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	Asphalt. Boring was cleared by airknife to 8 feet bgs. FILL. Loose SAND
Dry	7.6			MW-22-2		SW-SM		2	(SW-SM) Dark brown, fine to med. SAND w/ <5% silt. loose. (no sheen)
Dry	19.4			MW-22-4				4	SAME AS ABOVE; w/ 5% shell fragments. (no sheen)
Wet	204							6	(SW-SM) SAME AS ABOVE. loose.
Wet	422			MW-22-8		SW-SM		7	
						ML		8	(ML) Dark brown SILT w/ 10% sand. soft. (no sheen)
								8.5	Bottom of borehole at 8.5 feet.
								9	

WELL DIAGRAM



SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: D-6

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

Date Started: 7/26/2010
Date Completed: 7/28/2010
Driller: Cascade Drilling
Drill Method: Airknife/ HSA

Total Boring Depth: 20.5 ft
Hole Diameter: 10/8 in
Well Depth: 20 ft
TOC Elevation: 104.20 ft

Well Diameter: 2 in
Well Screen: 15-20 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
Dry	0.5			D-6-2		SW-SM		1	FILL. Boring was cleared by airknife to 8 feet bgs. (SW-SM) Brown, fine to coarse SAND w/ < 5% silt and < 5% shell fragments. loose. (no sheen)
Dry	0.0							2	
								3	
								4	SAME AS ABOVE; no shell fragments and < 5% organics (roots). (no sheen)
								5	
Moist	0.0					SW-SM		6	(SW-SM) SAME AS ABOVE; (slight sheen)
								7	
Wet	38.3	2 2 2		D-6-8				8	SAME AS ABOVE; w/ <5% shell fragments. (slight sheen)
	0.2			D-6-9				9	(ML) Brown SILT w/ 5% plant fragments. soft, med. plasticity. (no sheen)
								10	
						ML		11	
								12	SAME AS ABOVE. (no sheen)
Wet	0.0	1 2 3		D-6-13				13	
Moist	0.0							14	(SW-SM) Brown, fine to med. SAND w/ <5% silt. loose. (no sheen)
Dry	0.7	3 5 5				SW-SM		15	
Dry	0.1							16	
								17	Brown, fine to med. SAND w/ <5% silt. loose. (no sheen)
Wet	0.1	4 4 3/0"		D-6-19				18	
Wet	0.1	3 4 5/0"						19	(SW-SM) SAME AS ABOVE; w/ <5% silt. loose.
Wet	0.1					SW-SM		20	
								21	Bottom of borehole at 20.5 feet.
								22	

WELL DIAGRAM

- Well Box
- Cement Seal
- Sch 40 PVC Riser
- Bentonite Chip Seal
- Filter Pack (2/12 Sand)
- 0.010 Slotted PVC Screen

SAIC 18912 North Creek Parkway Bothell, WA 98011

Monitoring Well: D-7

Project: Chevron Facility No. 1001348
Client: Chevron EMC
Location: 1656 East J Street, Tacoma, WA
Logged By: Andrew Lembrick

Date Started: 7/27/2010
Date Completed: 7/27/2010
Driller: Cascade Drilling
Drill Method: Airknife/Hollow Stem Auger

Total Boring Depth: 20.5 ft
Hole Diameter: 10/8 in
Well Depth: 20 ft
TOC Elevation: 100.38 ft

Well Diameter: 2 in
Well Screen: 15-20 ft
Filter Pack: 2/12 SAND
Well Casing: Sch. 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	ANALYTICAL RESULTS (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								0	Asphalt.
								1	Boring was cleared by airknife to 8 feet bgs.
									FILL.
Dry	0.2			D-7-2		SW-SM		2	(SW-SM) Dark brown, fine to med. SAND w/ 5% silt. loose. (no sheen)
								3	
Dry	9.6							4	SAME AS ABOVE. (no sheen)
								5	
Moist	59.9			D-7-6		SW-SM		6	(SW-SM) Dark brown, fine to med. SAND w/ 10% silt. loose. (moderate sheen)
								7	
Wet	8.4			D-7-8				8	(ML) Brown SILT w/ 10% sand. stiff, med. plasticity. (no sheen)
Moist	0.1	2 2 3		D-7-9		ML		9	SAME AS ABOVE.
								10	
								11	(SW-SM) Dark brown SAND w/ < 5% silt. loose. (no sheen)
								12	
Moist	0.6	6 4 4		D-7-13		SW-SM		13	
								14	(SW) SAME AS ABOVE w/ <5% red fine to med. sand.
Wet	0.2							15	
Moist	0.6	3 6 5				SW		16	
								17	
								18	(SM) Brown, fine SAND w/ 10% silt. dense. (no sheen)
Wet	0.2	6 6 7						19	
		4 5 9		D-7-19		SM		20	
Wet	0.1							21	Bottom of borehole at 20.5 feet.
								22	

WELL DIAGRAM

- Well Box
- Cement Seal
- Sch 40 PVC Riser
- Bentonite Chip Seal
- Filter Pack (2/12 Sand)
- 0.010 Slotted PVC Screen

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: MW-24
PAGE 1 of 1

PROJECT:
LOCATION:
CLIENT:
DATE:
LOGGED BY:

DRILLER:
DRILL METHOD:
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH: Ecology well # BKF 946
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

MW

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0	X	0-3" Asphalt	Conc
	M					1	GM	3" to 1.5 ft: Yellow brown silt and gravel, dense, moist, no odor or sheen	
	M	2.0				2	SP-SM	1.5-6.5 ft: Very fine to med SAND, with minor silt (3.5 ft), loose, moist, no odor or sheen. Silt in upper half	bent chi
	M	1.5				3			
						4	SP-SM	SAA	
						5			prep Sele 10-sl
	M	1.6				6	SP	Less Silt	12/2 Sil
▽	Wet	2.4						wet at ~6.5 ft, becoming silty	
	W	2.0				7	ML	6.5 TO 9 ft: SILT with local plant debris and woody fibers, firm, wet. No odor or sheen	Sen
	W	1.9				8			
						9	TD		
						10			
						11			

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

9-4, 3, 2

WELL CONSTRUCTION RECORD

leidos

Project: 1001348
Job Number:
Recorded By: Lauren Thompson

Well ID: MW-2S
Well Tag: BKP617
Subcontractor: CDLP

Location of Well Relative To Source

Up Gradient	Side Gradient
Down Gradient	Unknown

Location:

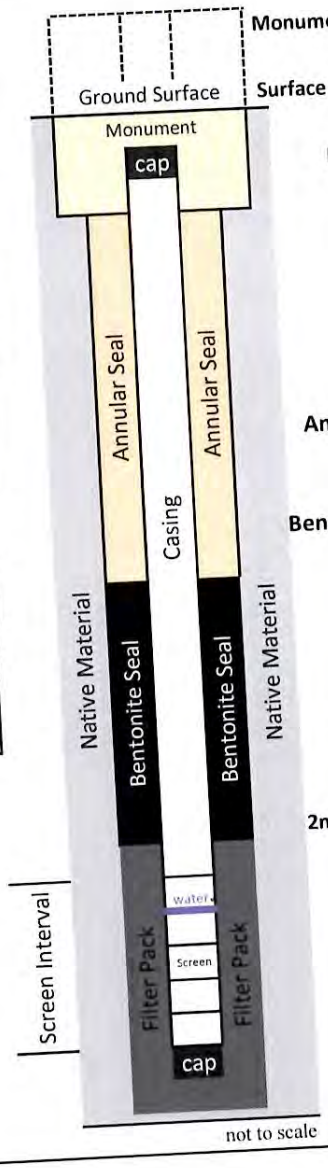
Type of Work	**Drilling Method**
New	Rotary (mud/air)
Recondition	Sonic
Deepening	Hollow Stem Auger
Repair	Hand Auger
Abandonment	Other Geoprobe

Installation
Well Installed By: Tim Watson
Install Date/Time: 7/27/18 1345

Protection	**Type of Cover**
Cap and Lock	Stick Up
Protective Posts	Flush Mount
Protective Casing	Other:
Other:	

STATIC WATER LEVEL
Existing Well / Predeepening: ____
Completed Well: ____

Artesian	Yes / No
Dry	Yes / No
Tidal Influence	Yes / No / Unk.



Monument/Vault From ____ft. To ____ft.

Surface Elevation ____ Source: ____

Borehole From 0 ft. To 10 ft. Dia. 12"

Casing Dia. 2" Gauge Blank Material PVC
From ____ft. To ____ft.

Liner Dia. ____ Gauge____ Material____
From ____ft. To ____ft.

Annular Seal Material Concrete Amount: 1 bags
From 1 ft. To 3 ft.

Bentonite Seal Material ____ Amount: 1 bags
From 3 ft. To 4 ft.

Screen Dia. 2 in. Slot Size 0.010 in. Material ~~Pre pack~~ PVC
From 5 ft. To 10 ft.

Filter Pack Material 1020 Amount: Pre pack bags
From 4 ft. To 10 ft.

2nd Filter Pack Material ____ Amount: ____bags
From ____ft. To ____ft.

Other Notes:

leidos

MONITORING WELL/ BORING LOG

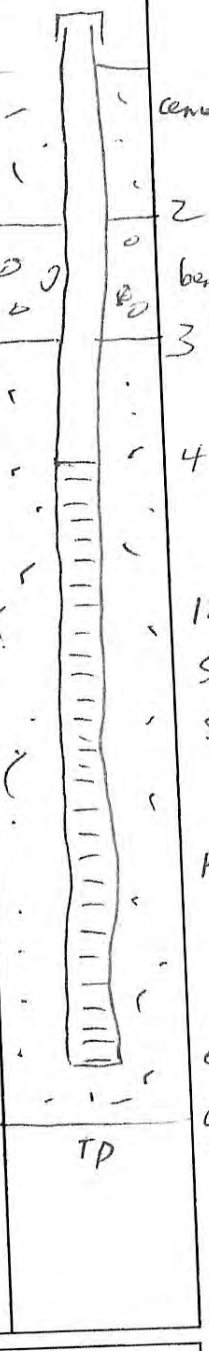
BORING/WELL No: MW-29
PAGE 1 of 1

PROJECT: 1001348
LOCATION: 1656 E J St, Tacoma
CLIENT: CEMC
DATE: 1-11-2016
LOGGED BY: TD

DRILLER: Cascade
DRILL METHOD: Air-knife and Hand Auger to 8', Geoprobe below
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
						0	X	0-7" Concrete
	M					1 12	SM	7" to .5ft: dark gray V.fine to fine sand with ~15% silt, med dense, moist. No odor, no sheen
	M	5.0				2 18	SP-SM	2 to ft: dark brownish gray vf-fine SAND with little silt (~8%), with white shells moist, med dense, no odor, no sheen
						3 14		
	M	6.2				4 16		SAA with decreasing Silt (~5%)
						5 16		SAA (5-7% Silt ~~Silt decreases to ~5%~~
		6.9				6 1/4		6 1/4 - 7 1/2 ft: Same as above with ~15% silt ~~Same as above~~
	wet					7	SM	wet at 6.5 feet, Medium Petroleum odor (moderate) in soil, medium sheen.
		397				7 18		
		737						Strong sheen, Strong odor at 7.5 feet
	wet	374				8 10	ML	Medium sheen, medium odor at 8 ft
						9 20		7.5 - ft: Dark brownish gray SILT at 7.5 ft to bottom, wet, firm, petroleum odor & sheen.
	wet						TD 9.5'	
						10 22		



NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: MW-30
PAGE 1 of

PROJECT:	DRILLER:	WELL DIAMETER:	
LOCATION:	DRILL METHOD:	WELL DEPTH:	Ecology Well #
CLIENT:	SAMPLE METHOD:	WELL CASING:	
DATE:	HOLE DIAMETER:	WELL SCREEN:	BKF 95 & 4
LOGGED BY:	HOLE DEPTH:	FILTER PACK:	
		CASING ELEVATION:	

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
							X	0-4" Asphalt	MW-
	D					1	GM	4"-15": Light brown silty GRAVEL, with some sand, dense, dry	
		1.2				2	SP	Dark gray-brown very fine to fine SAND, loose, no odor or sheen with 3-5% silt, moist.	hei chi
	M					3			3
	M	44.0				4	SP	Similar to above, but with weak petroleum odor, moderate sheen moist.	4
						5		Sample MW-30-6 @ 1115	
▽	VM/W	45.9				6	SM	5.5 to 6 3/4': Silty VF-fine SAND, with moderate petrol odor and medium sheen. Gray brown. very moist to wet wet at ~6 ft	12/2 Silt San
	W	25.1				7		6 3/4 to 10 ft:	pre-pa Scre
	W	32.6				8	ML	Brown-Gray SILT, firm, with plant debris, wet. weak petrol odor, slight sheen. SAA	0.01 slot
	W	2.1				9		SAA, no odor, no sheen MW-30-9 at 1400 (Sample)	9
	W	2.1				10	ML	SAA no odor, no sheen	10
						11	TD		

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

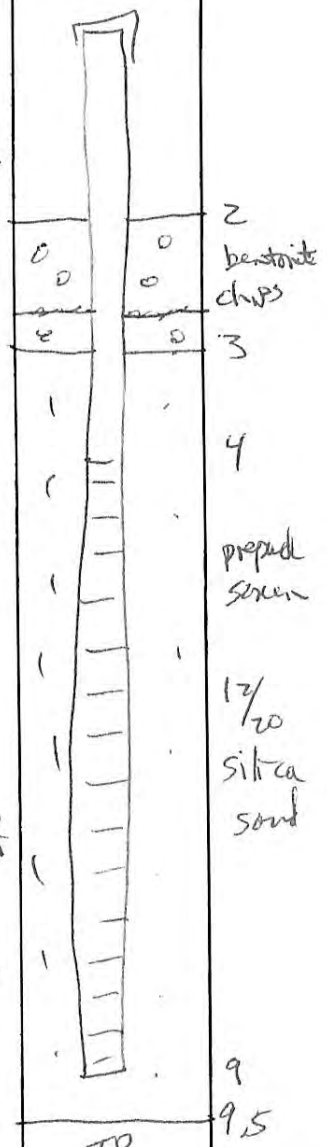
leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: MW-31
PAGE 1 of 1

PROJECT:	1001348	DRILLER:	Cascade	WELL DIAMETER:	
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:		WELL DEPTH:	Ecology well # BKF 941
CLIENT:	CEMC	SAMPLE METHOD:	Air knife + Hand Auger to 8', Geoprobe below	WELL CASING:	
DATE:	1-10-2019	HOLE DIAMETER:		WELL SCREEN:	
LOGGED BY:	TD	HOLE DEPTH:		FILTER PACK:	
				CASING ELEVATION:	

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
							X	0-4": Asphalt
	M					1 12	ML	4-12": Gravelly SILT
	M					2 18	SP	1-5': Med-dark brownish gray, very fine to med SAND, with trace silt (~3-4%), moist, loose, no odor, no sheen.
	M	11.6				3 14		SAA
	M	9.7				4 15		SAA
	M	9.2				5 16	SM	5-6 ft: SAND, as above, but mixed with brown, firm silt, moist, loose, no odor, no sheen
	M					6 17	ML	6-10 ft: SILT, Brown to gray (mostly gray), firm, moist, no odor, no sheen, with large wood fragment at 6.5 ft
▽	VM					7 18		
	Wet					8 19		• See D-19 for remainder of log
						9 20		
						10 21	TD	
						11 22		



NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: MW-39
PAGE 1 of 1

PROJECT: 100 1346
LOCATION: Tacoma
CLIENT: CVX
DATE: 2-10-21
LOGGED BY: TD

DRILLER: Cascade
DRILL METHOD:
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH: 10 feet

WELL DIAMETER: 2"
WELL DEPTH:
WELL CASING:
WELL SCREEN: 5-10' screen, pre-pack
FILTER PACK:
CASING ELEVATION:

BMY 443

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0	XX	6" Concrete	concrete
						1			
		0,0				2	SP-SM	HA 2-2.5 feet: Med brown vf-med SAND with ~5-7% silt, loose, moist, no odor, no sheen.	bent. clips
						3			3.5
						4			
						5			2/12 silica Sand
▽		0,0				6	SP-SM	HA 6-6.5 ft: Med brown vf-med SAND with ~7% silt, as above, wet, no odor, no sheen, abundant shells.	
						7			
		0,0				8	SP-SM	HA 7.75-8.25 ft: Same as above, with lesser shells, no odor, no sheen, wet.	
		3,1 →							
		2,0				9	ML	DPT 8-8.5 ft: Med dark brown-gray vf-med SAND with 7-8% silt, wet, shelly, dense, very weak HC odor, no sheen.	
		3,9				10	TD=10'	DPT 8.5-10 ft: Med brown-gray SILT with minor clay (rolls to 1/8 inches), with plant + wood debris, damp, very weak HC odor, no sheen.	
						11			

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

@ 5-foot riser pipe ended up ~2" above ground

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-9 (northern of pair) PAGE 1 of 3

PROJECT: 100348 Tacoma
LOCATION:
CLIENT:
DATE: 1-14-2019
LOGGED BY: TD

DRILLER:
DRILL METHOD:
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH: Ecology well #
WELL CASING:
WELL SCREEN:
FILTER PACK: BKF 945
CASING ELEVATION:

D.

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
						0	X	0-5" Asphalt
	M					1	GM	5" to 1.5 ft: Yellow-brown silty GRAVEL, with some sand, dense, moist, no odor or sheen. Road base fill.
	M					2	SP-SM	1.5 to 5.5 ft: Dark gray-brown very fine to fine sand with ~12% silt (coarse silt), moist, no odor or sheen, med. dense.
		3.6				3		
						4		
	VM					5	SP-SM	At 5 ft: SAA, but with ~8% gravel up to 1" vf-fine, a little medium SAND very moist. No odor or sheen.
▽		2.8				6	ML	Wet at 5.5-6 ft; silt at 5.5 ft Sample D-9-6 @ 1400
	wet	1.9						At 6.5-7 ft; abundant plant debris and wood fibers in silt.
		2.1				7		
	w	1.7				8	ML	SAA, SILT (w/o abundant organics)
						9	(SP)	No recovery from 8-10 ft, material fell out during core removal (assume sand from ~9 down)
	w	1.4				10	SP	12.5 (assume 9-12.5 ft total): 10-12.5 ft = Dark gray vf-med SAND (with red+green grains), dense, wet, no sheen or odor. Maybe ~2% silt (coarse).
						11		

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel, strong odor; slight sheen.
NOTES:

Well Completion/ Backfill Material: Conc; 2; D; B

10-15

2' 14 15-20

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-9
PAGE 2 of 3

PROJECT:	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH: Ecology well #
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE:	HOLE DIAMETER:	WELL SCREEN: BKF 945
LOGGED BY:	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	W	1.5				12	SP (ML) SP-SM	At 12': 3" silt layer between SAND finer-grained down to silt 12.5 - 13¼ = sandy SILT to silty w/SAND	0 bent
	W					13	ML/SM ML/SM	Sample D-9-13 @ 1430 (VF Sandy SILT	
		1.4				14	ML	13 - 15 ft.: Dk Brownish Gray SILT, wet, firm, no odor or sheen,	14
						15	ML		15
	W	2.0				16	SP	15 - 19¼ ft: Dark gray VF-med. SAND (w/red & green grains), dense, wet, no odor or sheen	
						17	SP	SAA	
	W	1.2				18			
						19	SP	SAA	
	W	1.7				20	ML (SM) ML/SM	19¼ - 25 ft: SILT with interbeds of VF Sand, firm, wet, no odor or sheen. • SILT has occasional little (2cm) closed mollusc shells.	20 For mollusc slough (silt/sand)
		1.7				21			
						22			

NOTES:

WELL CONSTRUCTION RECORD

leidos

Project: 1001348		Well ID: D-10	
Job Number:		Well Tag: BIRF 616	
Recorded By: Lauren Thompson		Subcontractor: CDLP	
Location:		**Location of Well Relative To Source**	
		Up Gradient	Side Gradient
		Down Gradient	Unknown

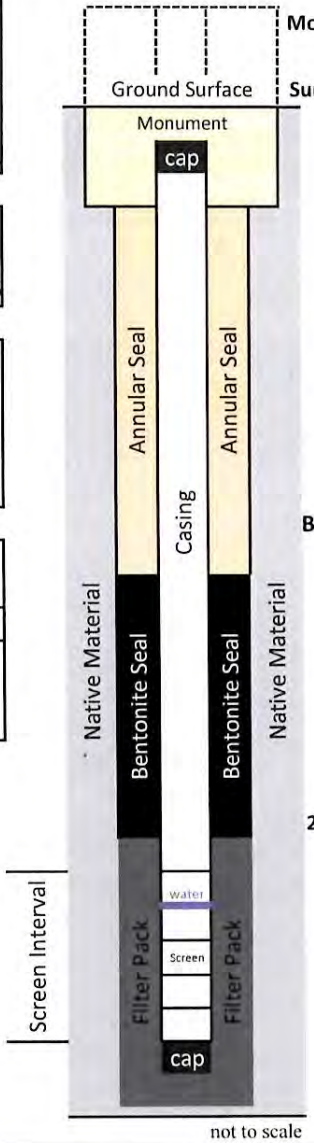
Type of Work	**Drilling Method**
(New)	Rotary (mud/air)
Recondition	Sonic
Deepening	Hollow Stem Auger
Repair	Hand Auger
Abandonment	Other: Geoprobe

Installation
Well Installed By: Tim Watson
Install Date/Time: 7/27/18 1025

Protection	**Type of Cover**
Cap and Lock	Stick Up
Protective Posts	Flush Mount
Protective Casing	Other:
Other:	

STATIC WATER LEVEL
Existing Well / Predeepening: ____
Completed Well: ____

Artesian	Yes / No
Dry	Yes / No
Tidal Influence	Yes / No / Unk.



Monument/Vault From ____ft. To ____ft.

Surface Elevation ____ Source: ____

Borehole From 0 ft. To 24 ft. Dia. 12"

Casing Dia. 2" Gauge Blank Material PVC
From 0 ft. To 14 ft.

Liner Dia. ____ Gauge____ Material____
From ____ft. To ____ft.

Annular Seal Material Concrete Amount: 1 bags
From 1 ft. To 3 ft.

Bentonite Seal Material____ Amount: 1.5 bags
From 3 ft. To 13 ft.

Screen Dia. 2 in. Slot Size 0.010 in. Material PVC
From 14 ft. To 24 ft.

Filter Pack Material 1020 Sand Amount: prepack bags
From 13 ft. To 24 ft.

2nd Filter Pack Material____ Amount:____bags
From ____ft. To ____ft.

Other Notes:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-12

PAGE 1 of 3

PROJECT: 1001348	DRILLER: Cascade	WELL DIAMETER:	
LOCATION: Tacoma	DRILL METHOD: Air Knife + Hand Auger to 8 ft., Geoprobe below	WELL DEPTH:	Ecology Well # D-1
CLIENT:	SAMPLE METHOD:	WELL CASING:	
DATE: 1-14-19	HOLE DIAMETER:	WELL SCREEN:	BK F 942
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:	
		CASING ELEVATION:	

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0	X	0-7" Concrete	Cement
	M					1	SM	7" to 1.5'; dark gray silty, gravelly, very fine to medium sand, med dense, moist, no odor or sheen, with white shells.	
						2	SP-SM		
						3			
							SP-SM	N1.5 to 8 feet:	
	M	2.8				4		Very fine to medium SAND with little Silt (~5%), dark gray, med dense, moist, no odor, no sheen	
						5		Sample D-12-5.5 @ 0950 Same as above, wet at 5.5'	Bent chi (2-2
▼	wet	3.0							
	W	3.9				6		SAA no sheen or odor	
	W	4.5				7	SP-SM		
	W	3.8				8		SAA no sheen or odor	
	W	5.6				9	ML	Sample D-12-9 @ 1000 8' to 10': DK Brown SILT, firm, wet, weak HC odor, no sheen.	
	W	5.1				10		10 - 12 ft: DK brown SILT, with minor fine sand and plant debris, soft, wet, weak HC odor, no sheen.	
	W	7.0				11	ML		

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-72

PAGE 2 of 3

PROJECT: 1001348	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-14-19	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						12	ML		
	wet	7.8						12 - 14.5 ft: Med dk brown SILT, laminated, wet, firm, no odor or sheen.	
						13	ML		
	wet	4.0	(5)			14			
								14.5 - ~~15.7~~ 15.2 ft. Very fine to med SAND, with trace (~3.5%) silt; with red + green grains; dark gray, wet, dense.	
						15	SP		
	wet	5.0	(5)			16	ML	~~15.7~~ 15.2 - 17.5: Med-dark brown SILT, laminated w/ plant debris, grades coarser at bottom into and below	
						17			
	wet	6.6	(8)			18	SP	17.5 - 20 ft: very fine to med. SAND (as above at 15'), wet no odor, no sheen, very dense.	
						19			
	wet	5.2				20	SP		
								20 to 23 ft: med dark brown SILT (as above at 16') wet no odor or sheen	
	wet	6.5				21	ML		
						22			

bent chip (2-2

NOTES:

23-29

leidos

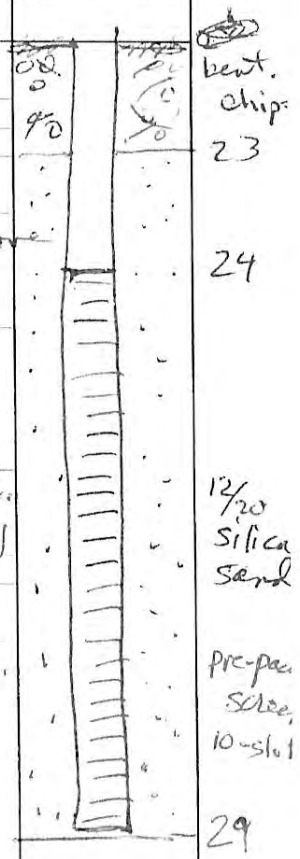
MONITORING WELL/ BORING LOG

BORING/WELL No:

PAGE 3 of 3

PROJECT: 1001348	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-14-19	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	W	6.7				23	ML	SILT, as above	
	W	5.5				24	SP	23 to 25+ ft. DK gray vf to med. SAND, as above at 19 feet. Wet, no odor, no sheen	
	W	3.9				25			
						26		Driller pushed from 25 to 29 ft apparently all through sand, as above. (Driller stated that it pushed like sand not silt) No core recovered	
						27		This sand heaved into casing during well installation.	
						28	(SP)		
						29	TD		
						30			
						31			
						32			
						33			



NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-14

PAGE 3 of 3

PROJECT:	DRILLER: COLD	WELL DIAMETER:
LOCATION: Tacoma, WA	DRILL METHOD: HSA	WELL DEPTH:
CLIENT: CWAC	SAMPLE METHOD: SS	WELL CASING:
DATE: 10-27-17	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: AW	HOLE DEPTH: 32'	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	Silt	0	4/4			23		SAME	grout
						24		Black MED SAND Slt. odor, No Sheen	
						25			
						26		SAME	
						27		GREY dense, ~~clay~~ SILT no odor no sheen	grout
						28		Blk MED SAND, shells no odor no sheen WET	Chips SAND
						29		Silt, loose, v. wet. INTERBEDS	TOS
						30		SAND v. WET SILT v. wet	
			4/4			31		SAND v. wet Silt v. wet	
			2			32		Blk. MED SAND w/ Shell fragments. WET, Loose BOH	BOS
						33			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-14

PAGE 1 of 2

PROJECT:	DRILLER: CDLP	WELL DIAMETER:
LOCATION: Thurston, WA	DRILL METHOD: VAC/auger	WELL DEPTH:
CLIENT: CEMC	SAMPLE METHOD: ~~grab~~ SS	WELL CASING:
DATE: 10-27-17	HOLE DIAMETER: ~~4"~~	WELL SCREEN:
LOGGED BY: AW	HOLE DEPTH: ~~30~~	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0		Gravel bed	Conc.
								BLK MED SAND	
						1			
						2			
						3			
						4			
						5			Cem 2'
						6			
						7			
						8			
						9			10'
						10			cement
						11			grout

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-14

PROJECT:	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE:	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY:	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						12			
						13			
						14			
						15		VAC	
						16			grout
						17			
						18			
						19			
						20		black SHED SAND no odor, no sheen	
						21			
						22		SAME no odor no sheen	

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-15
PAGE 2 of 2

D-15

PROJECT:	1001348	DRILLER:	WELL DIAMETER:
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD:	WELL CASING:
DATE:	1-11-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY:	TD	HOLE DEPTH:	FILTER PACK:
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	wet	49.5				12	ML	SAA. laminated SILT with weak petrol odor, no sheen, wet, firm, medium brown-gray - weak petroleum odor extends down to about 13 ft	
		12.0				13			
		13.1	+ silt			14	ML		
	wet					15	SP	14.5 to 20+ ft: Dark gray very fine to medium SAND, with trace coarse silt (~2-3%), with red & green grains, wet, dense no odor, no sheen.	
		10.6				16		Sample D-15-16 @ 11:20	16
						17	SP	SAA	
		9.2				18			12/20 Silica Sand
						19		SAA	pre-packed screen
		9.4				20	SP	SAA	
						21			21
						22	TD 21.5		21.5 TD

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-15
PAGE 1 of 2

D-15

PROJECT:	1001348	DRILLER:	Cascade
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	Hand Auger to 8ft
CLIENT:	CEMC	SAMPLE METHOD:	
DATE:	1-11-2019	HOLE DIAMETER:	
LOGGED BY:	TD	HOLE DEPTH:	Geoprobe below

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0	X	0-7" concrete	
						1	SM	7" to 2': Dark gray to dark brown silty, very fine to fine SAND, med. dense, moist, no odor, no sheen	
	M	4.3				2			
								-large rock at 2' (7")	
	M					3	SP-SM	2' to 5.5': Dark brownish gray, very fine to fine SAND with little silt, trace shells, moist, loose to med dense, no odor, no sheen,	
		4.3				4			
	VM								
		7.5 → 5'				5	SP-SM	At 5' SAA but with some gravel up to 1.5 inches	
▽	wet	33.0 @ 5.5'	SM			6	~~SP-SM~~ SM	Sample D-15-5.5@10:50 At 5.5', SAA, but with more silt (~12-15%) and no gravel, moderate petrol odor, moderate sheen, wet. (=very fine to fine SAND with silt)	
		208 @ 7.5'	silt			7			
	wet	98 → 8'				8	ML	7.5 to 14.5 ft: Med-dark brownish gray SILT, firm, wet, with plant debris, moderate petrol. odor, v. light sheen.	
						9		SAA at 8': no sheen, weaker odor (mod, weak)	
	wet	20.9				10		SAA at 10': no sheen, weak petrol odor	
						11	ML	Sample ~~S~~ D-15-8 @ 11:30	

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-18
PAGE 1 of 2

PROJECT:	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH: Ecology well #
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE:	HOLE DIAMETER:	WELL SCREEN: BKF 95X 3
LOGGED BY:	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
							X	0-4" topsoil
	D					1	GM	Light brown with some sand 4"-15"; silty GRAVEL, dense, damp, no odor or sheen, road base material
	M	8.8				2	SP	15-5.5': Gray-brown, very fine to medium SAND, with trace silt (2-4%), loose, moist, no odor or sheen.
						3		
		9.5				4	SP	SAA
	VM					5	SP	SAA, shell begin to appear at 5'
▽	W	10.0				6	SM	wet at ~6' at 5.5' Sample D-18-6 @ 1100 5.5-6.5+FT: Brown-gray silty vf to fine SAND, weak petroleum odor, no sheen. Dense
	W					7	ML	6.5-12.5ft brown-gray SILT, firm, wet, weak petroleum odor, no sheen, a little wood fibers
		10.6				8		
	W					9	ML	SAA
	W	2.0				10		SAA
	W	1.7				11	ML	

Well Completion/ Backfill Material: D-1 Conc 2 ben chi

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-18

PAGE 2 of 2

PROJECT:	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE:	HOLE DIAMETER:	WELL SCREEN: BKF953
LOGGED BY:	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	W					12	ML	SAA: SILT, no odor, no sheen wet	D-18 bent chi
	W	2.5				13	SP-SM	12.5 to 20 ft: Dark gray V. Fine to Medium sand with local silt, (Silty sands are - fine), Overall N4-5% silt W Dense, No odor no sheen, 5' tier in top foot.	13
						14	SP		14
	W	2.0				15			12/2 silic San
	W	1.7				16			
						17	SP		Pre-p Scre
	W	2.0				18			0.01 slot
						19			19
						20	SP TD		20
	W	2.2				21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-19
PAGE 1 of 2

D-19

PROJECT: 1001348	DRILLER: Cascade	WELL DIAMETER:	
LOCATION: Tacoma	DRILL METHOD: Air Knife and Hand (to 8 Ft) Auger	WELL DEPTH:	Ecology well # BKF 940
CLIENT:	SAMPLE METHOD:	WELL CASING:	
DATE: 1-10-2019	HOLE DIAMETER:	WELL SCREEN:	
LOGGED BY: TD	HOLE DEPTH: geoprobe below	FILTER PACK:	
		CASING ELEVATION:	

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0		0-4": Asphalt	
	M					1/28	SP-SM	4" to 1': Yellow-brown gravelly SILT, moist, firm, No odor	cement
	M					2/24		1' to 7': Dark brown very fine to med grn SAND with ~6% coarse silt. Moist, loose, No odor, no sheen.	2.5
	Moist	7.5				3/25			bentonite chips
	M	8.3				4/26		same as above (SAA)	
	M	10.8				5/27	SP-SM	with silt.	
	VM	10.4				6/28	SM	Similar to above: Very fine to med SAND, with more silt, SAA, siltier near base (~12%)	
▽	wet					7/29	ML	7 to ~10': Medium brown-gray SILT, with some very fine sand, Firm, Moist, and wet at ~8 ft. Local zone of woody dark debris at 8.5-	
						8/30		Sample D-19-8.5 @ 14:00	
						9/31		no recovery	
						10/32	SP	Geoprobe Sample at 10-12': very fine to medium SAND (with some red granitic grains), trace silt (~3%); dense, no odor, no sheen.	
	wet	8.6				11/38			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: ~~MW-37~~ D-19 (D-19)

PAGE 2 of 2

PROJECT:	1001348	DRILLER:	WELL DIAMETER:
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	WELL DEPTH:
CLIENT:	CEMC	SAMPLE METHOD:	WELL CASING:
DATE:	1-10-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY:	TD	HOLE DEPTH:	FILTER PACK:
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						11	SP	same as above	0
		10.4				12		12-13 ft: Dark gray-brown silt with local plant debris, firm, wet, no odor, no sheen. Grades downward into sand (coarser downward)	0
	wet						ML		0
		8.9				13	SP		0
		10.6					ML	13-13.5 ft: Sand, as above no odor, no sheet	0
						14		13.5-15 ft: Medium Brown Gray SILT, laminated (no sand), wet, firm, no odor, no sheen	0
	wet					15			0
		7.5				16	SP	15 ft - 20 ft: very fine to medium SAND, with trace silt (2-3%) (with red + green grains), med-dark gray.	0
	wet					17			0
	wet	10.4				18		Sample D19-18 collected @ 14:30	0
		8.6				19			0
						20			0
						21			0
						22			0

bent. chips

16

17

12/20 Sand (Silica Sand)

mypak screen

22

NOTES:

22.5 TD

TD

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-22
PAGE 1 of 2

PROJECT: Tacoma	DRILLER: Cascade	WELL DIAMETER: 2"
LOCATION: 100-1345	DRILL METHOD:	WELL DEPTH: 20'
CLIENT: CVX	SAMPLE METHOD:	WELL CASING:
DATE: 2-9-21	HOLE DIAMETER:	WELL SCREEN: 15-20 ft
LOGGED BY: TD	HOLE DEPTH: 20 ft	FILTER PACK: pre-pack
BMY 442		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0		Parking lot - gravel	D-22
								Sandy sod below surface	
						1	SP-SM		
		2.9				2	SP-SM	HA 2-2.5 ft: ~10% gravel Med dark gray vf-med SAND with abundant shells, ~5-7% silt, moist no odor, no sheen, loose, shells;	concrete
						3			
		2.7 3.0				4	SP-SM	HA 4-4.5 ft: Same as above, with ~5% gravel (up to 0.5 inch), no odor, no sheen	
						5		Sample D-22-4.0 @ 4-4.5 feet 2-9-21 @ 10:20	bent. chips
		2.3 2.6				6	SP-SM	HA 6-6.5 ft: Same as above, no odor, no sheen	
						7			
		2.5 1.8				8	SP-SM	HA 8-8.5 ft: Same as above, no odor, no sheen	hand auger to 8.5 feet
▽		4.2				9	SP	DPT 8.5-10 ft: Med dark ~~gray~~ brown/gray vf-med SAND with 4-5% silt, shells, wet below 8.5 or 9 ft, dense, no odor, no sheen.	native formation
		4.1				10		Sample D-22-9.0 at 9-9.5 ft 2-9-21 @ 1120	
		0.0				11	SP	DPT: 10-13 ft: Med dark ~~brown~~ gray vf-med SAND with ~4% silt, dense, wet, no odor, no sheen	slough

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all CAPS (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

4.0 - 10.20

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-22
PAGE 2 of 2

PROJECT:	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 2-9-21	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
		0.0				12	SP		
		0.0				13	ML	DPT: 13 - 14.75 feet: Med dk brown-gray SILT with variable minor clay (rolls to 1.5 inches max), wet, no odor, no sheen, firm, laminated.	
		0.0				14			
						15	SP	DPT: 14.75 - 20 feet: Med dark gray brown VF to med SAND, with ~3% silt, wet, dense, no odor, no sheen.	
		0.0				16			
						17			
		0.0				18			
						19	SP	Sample D-22-19.5 (19.5-20') 2-9-21 @ 1525	
		0.0				20	TD @ 20'		
						21			
						22			

D-22

native formation

slough or closing in

2/12 silica sand (little sand is needed due to formation closing in

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-1
PAGE 1 of 1

PROJECT: 1001348
LOCATION: Tacoma
CLIENT:
DATE: 1-9-2019
LOGGED BY: TD

DRILLER: Cascade
DRILL METHOD: Air knife, hand auger to 8' geoprobe below
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
								Air knife + hand auger to 8 ft	
						0	X	0-8" Concrete	
	M					1	ML	8" - 1.5': Road base material: DK. brown silt with gravel, moist firm	
		5.1				2	SP	1.5 - 9' Very fine to medium SAND, with variable silt (3-8%), with white marine shells especially in upper foot. Loose, no odor, moist to very moist. Very dark brown, lighter w/depth	
	VM					3		no odor	
								Same as above	
		4.7				4		no odor	
								Same as above	
▼	wet	5.1				5		wet at 5 ft, more shells	
								Sample OB-1-5 @ 1045	
								no odor Same as above	
						6		Soil sloughing into hole w/hand auger	
						7		no odor, Same as above	
	wet							- Geoprobe at 8+'	
						8		odor begins at ~8', no sheen diesel or oil odor	
							SP (HNL)	Sample OB-1-8.5 @ 11:50 am (8.5-9')	
	wet	8.5				9	TD 9'	Same lithology as above, moderate Petroleum odor; at 9' with gray fragments of firm silt	
						10		Geoprobe deeper - no recovery or slough prior to 11 ft, but no true soil recovery	
						11			

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB
PAGE 1 of 2

PROJECT: 1001348
LOCATION: Tacoma
CLIENT:
DATE: 1-9-2019
LOGGED BY: YD

DRILLER: Cascade
DRILL METHOD: Air Knife + Hand Auger to 8 Ft (Geoprobe below)
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
								Air Knife to 1.5', ~~Geo~~ Hand Auger below	
	moist					1	GM	0-1.5': Gravel with silt, dense compacted, moist, dark brown, no odor, no sheen	
	Moist	7.0				2		1.5-9 Ft: Dark brown, very fine to medium sand, with trace white shells, and variable silt (~4%), loose, moist to v moist above 5 ft. no odor, no sheen to 6.5 ft	
	very moist	7.6				4	SP	lithology same, no odor, no sheen	
▽	wet	8.0				5		• Sample OB2-5 @ 1315 wet at 5 Ft	
						6		same as above, no odor, no sheen	
	wet	7.8				7		moderate to weak odor ← Diesel or oil odor begins at 6.5 ft, but no sheen Sample OB-2-6.5 @ 1335 (with odor)	
		11.5				8			
	wet	8.4				9		petroleum odor (moderate), no sheen Sample OB-2-9 @ 1410	
	VM	8.1				10	ML	petroleum odor (~~st~~weak), no sheen 9-12.5 Ft, Gray to brown gray SILT with some ~10-15% clay, laminated, firm, very moist	
						11		petroleum odor (very weak), no sheen lighter color with depth	

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-2

PAGE 2 of 2

PROJECT: 10C1348	DRILLER:	WELL DIAMETER:
LOCATION: TRUONA	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	VM	9.4				12	ML	SILT, as above but med ~~to light~~ brown color Very weak to no odor, no sheen	
						13	TD 12.5'		
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-3
PAGE 1 of 1

PROJECT: 1001348
LOCATION: Tacoma
CLIENT:
DATE: 1-9-2019
LOGGED BY: TD

DRILLER: Cascade
DRILL METHOD: Air knife, hand auger to 8'
SAMPLE METHOD: Grab sample below
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	V. moist					1	ML	0-1.5 Ft: silt with sand, minor gravel and brick fragments. Firm, dense, dark brown, no odor, no sheen, very moist.	
	Moist	12.1				2		1.5-6.5 Ft: Dark brown, very fine to medium SAND, with ~6% (average) silt, with trace shells, trace gravel to 1 inch. No odor, not keen. Dense to med. dense, moist	
	Moist					3	SP-SM		
▽	Wet	11.3				4		Wet at 4.5 feet	
						5		Sample OB-3-4.5 @ 10	
						6		Sample OB-3-6.5 @ 14:30	
		10.6						At 6.5 Ft:	
		23.6				7	SM	Becoming darker, finer-grained, with petroleum odor. Dark gray, silty very fine to medium SAND, with wood fibers, medium petroleum odor, no sheen, wet, soft	
	Wet	18.8				8			
						9		little recovery	
		22.2				10	SM	10-10.5 ft: Dark brown-gray, silty very fine to medium SAND with wood fibers, medium petrol. odor, soft, wet, no sheen	
	Wet					11	ML	Sample OB-3-10.5 @ 15:15	

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-3
PAGE 2 of 2

PROJECT: 100348	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	VM	13.3				12	ML	10.5 - 12.5 ft: Med. brown SILT, soft to firm, very moist, weak petroleum oder only in top inch.	
							TD		
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-4
PAGE 1 of 2

PROJECT: 100348	DRILLER: Cascade	WELL DIAMETER:
LOCATION: Tacoma	DRILL METHOD: Air Knife and Hand Auger to 8' (Geoprobe below	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						1	ML	0-1.5 ft: SILT with some gravel and sand, no odor, no sheen, moist.	
	moist					2		Dark gray, very fine to fine (some medium) SAND with trace shells and gravel, and SILT (~5-8%), moist, loose	
		853						Strong petroleum odor begins at 2.5 ft bgs. Strong sheen	
		738				3	SP-SM		
		834							
		871				4			
▽	wet	1007					SP-SM	Wet at 4.5 ft, same as above. Sample OB-4-4.5 @ 1500	
		1048				5		strong petroleum odor, strong sheen	
						6		(little recovery, sloughing)	
						7	?		
	wet	134				8	SM	At 7.5 - 8.5 ft: Silty very fine to fine sand with ~20% silt, wet, mod to strong petroleum odor, strong sheen (strong iridescent odor on water in core), trace shells. Sample OB-4-8 @ 15:30	
		106				9			
	wet	62				10	ML	At 8.5 - 12 ft: Medium brown, SILT soft to firm, weak petroleum odor decreasing with depth, medium sheen at top, decreasing to no sheen at bottom, wet.	
		41.5				11		-at 9 ft is 1-inch woody/peaty layer, dark gray.	

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

43.7 12

SAIC

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-4
PAGE 2 of 2

PROJECT: 1001348	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						11		Sample OB-4-11.5 @ 15:45	
								Same as above.	
							ML		
	wet	43.7				12			
							TD 12'		
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: OB-5
PAGE 1 of 2

PROJECT: 1001348	DRILLER:	Air Knife + Hand Auger to 8 Ft Geoprobe below	WELL DIAMETER:
LOCATION: Tacoma	DRILL METHOD:		WELL DEPTH:
CLIENT:	SAMPLE METHOD:		WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:		WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:		FILTER PACK:
			CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	Moist					0		0-1.5 Ft: Med brown grey ly SI moist ft, no odor, no sheen	
						1			
						2		1.5 to 4.5 Ft: Dark brown to gray b very f to med SAND, some silt (~) and white fine and gravel (a few percent each)	
		12.6				3	SP		
	Moist	10.4				4		Sample at OB-5 @ 16'	
▽	wet	35.6				5		4.5 to 8 Ft Med - dark gray, wet to very wet SAND, some silt (~20%) fine, med to coarse, with Medium petroleum like	
		448				6	SM	strong odor and medium sheen from 6 to 7.5 ft	
		431				7		Sample OB-5 7 @ 15'4	
		62.0				8		Weak odor, slight sheen	
		16.2				9		No sheen, weak odor	
							ML	Sample OB-5 10 @ 17'00	
		11.6				10		No sheen, no obvious odor	
	wet					11		8 to 12 Ft: Med brown SILT, firm, wet to very moist, odor/sheen decreases with depth	

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

12.2 12

SAIC

MONITORING WELL/ BORING LOG

BORING/WELL No: 08-5
PAGE 2 of 2

PROJECT: ID 013478	DRILLER:	WELL DIAMETER:
LOCATION:	DRILL METHOD:	WELL DEPTH:
CLIENT:	SAMPLE METHOD:	WELL CASING:
DATE: 1-9-2019	HOLE DIAMETER:	WELL SCREEN:
LOGGED BY: TD	HOLE DEPTH:	FILTER PACK:
		CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample: Recovery	Sample: Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
	wet	12.2				12	ML	Same as above no sheen, no odor	
							TD 12'		
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
						21			
						22			

NOTES:

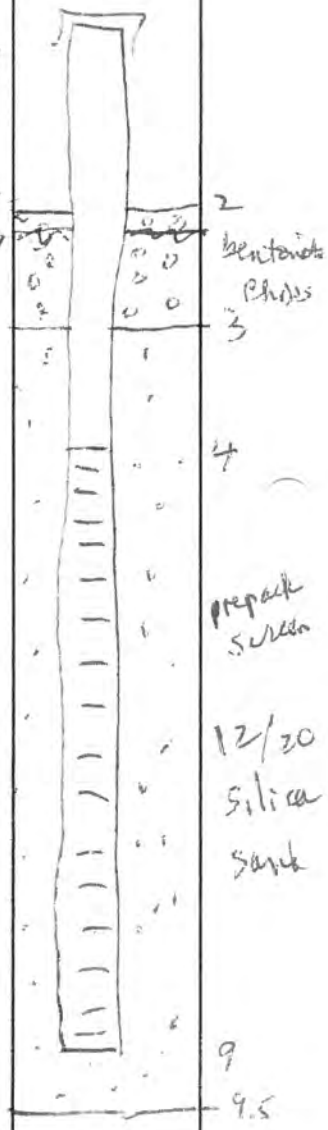
leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: MW-23
PAGE 1 of 1

PROJECT:	1001348	DRILLER:	Cascade
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	Hand Auger / Air Knife to 8' bgs
CLIENT:	CEMC	SAMPLE METHOD:	
DATE:	1-10-2019	HOLE DIAMETER:	
LOGGED BY:	TD	HOLE DEPTH:	Geoprobe below
WELL DIAMETER:			
WELL DEPTH:	Ecology		
WELL CASING:	well #		
WELL SCREEN:	BKF 938		
FILTER PACK:			
CASING ELEVATION:			

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
						0	X	0-4" asphalt
						1	ML	4-8" ft yellowish brown gravelly silt, firm, moist
						2	SP	8" to 3' dark gray-brown very fine to med SAND with trace (<5%) coarse silt, with shells, loose, no odor, no sheen.
	M	5.2				3		
						4		(see D-8 for remainder of log)
	M	6.4				5		
						6		MW-23 is NW of D-8 (MW-23 is closer to East 15th Street)
▽	Wet					7	SP	wet at about 6 ft
						8		
						9		
						10	SP/ML	
						11	TD 9.5	
						12		



NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-8
PAGE 1 of 2

PROJECT:	1001348	DRILLER:	Cascade
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	Air knife/Hand Auger to 8 feet
CLIENT:	CEMC	SAMPLE METHOD:	
DATE:	1-10-2019	HOLE DIAMETER:	Geoprobe below
LOGGED BY:	-RS	HOLE DEPTH:	

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
						0		4" asphalt
						0.5		4-12" yellow-brown silty gravel, dense
	moist					1		
						1.5	SP	1- ft: dark brown-gray very fine to med SAND with trace silt (coarse silt <5%), white shells, trace gravel up to 1 inch, moist, loose, no sheen or odor (odor begins), moist to 6 feet. (at water table)
						2		
	moist					2.5		
						3		
						3.5		
						4		
						4.5		
						5		
						5.5		
▽	wet	5.3				6	SP	Wet at 6-6.5 ft
						6.5		Sample D-8-6 @ 09:00
		4.7				7		Weak hydrocarbon odor at 6-6½ ft, no sheen
						7.5		
		3.8				8		no odor, no sheen > 6.5 ft
						8.5		
		11.7				9	SP/ML	Same as above, some thin silt layers interbedded in lower 6 inches (sand > silt)
						9.5		
	VM	8.0				10	ML/SP	9-10.5 Silt layers interbedded with sand + shells. firm/dense, very moist, silt is coarse (silt > sand)
						10.5	SP/ML	
		10.3				11		

Well Completion/ Backfill Material: cement; 2.5; hydrated bentonite chips; (Cetco Pureguld medium chips)

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-8
PAGE 2 of 2

PROJECT: 1001348
LOCATION: 1656 E J St, Tacoma
CLIENT: CEMC
DATE: 1-10-19
LOGGED BY: TD

DRILLER: Cascade
DRILL METHOD: Air knife / hand auger
SAMPLE METHOD:
HOLE DIAMETER: to 8 ft,
HOLE DEPTH: Geoprobe below

WELL DIAMETER:
WELL DEPTH: Ecology
WELL CASING: well #
WELL SCREEN:
FILTER PACK: BKF 939
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
								10.5-12	
	wet					12	SP/ML	~~8~~ ft: Sand with interbedded coarse silt. More sand than silt. Wet dense/firm; shells	
							ML/SP	No odor, no sheen. Wet (sand > silt)	
		10.8				13		12-14 ft: silt with interbedded sand layers. firm/dense (silt > sand)	bentonite chips
		6.6				14	ML	Med to dark brown silt with abundant organics (black) and wood fiber, weak petroleum odor. No sheen	
		12.1				15		Sample D-8-14.5 @10:15	
								15-16': no recovery (sloughs sand)	
						16		16± to 20': very fine to coarse sand, no shells, no silt, no odor, no sheen.	16
	wet	9.8				17	SW	Dark gray (with conspicuous red grains), dense, wet, green	17
						18			pre-pack screen
		8.3				19			12 to 20
									silica sand
	wet	6.5				20			(Pioneer Sands silica Sand)
								no samples below 20'	
						21		Total geoprobing to 22.5'	
						22			22 / 22.5

NOTES:
TD = 22.5

leidos

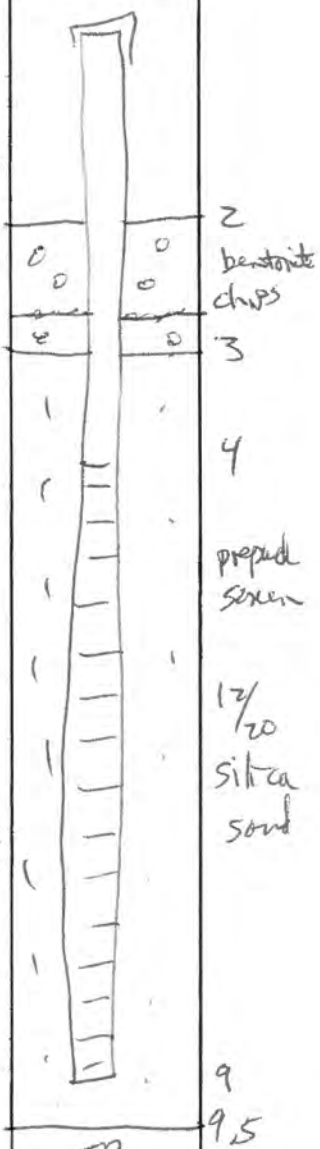
MONITORING WELL/ BORING LOG

BORING/WELL No: MW-31
PAGE 1 of 1

PROJECT:	1001348	DRILLER:	Cascade
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	Air knife + Hand auger to 8', Geoprobe below
CLIENT:	CEMC	SAMPLE METHOD:	
DATE:	1-10-2019	HOLE DIAMETER:	
LOGGED BY:	TD	HOLE DEPTH:	
WELL DIAMETER:			
WELL DEPTH:	Ecology well # BKF 941		
WELL CASING:			
WELL SCREEN:			
FILTER PACK:			
CASING ELEVATION:			

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION
						0	x	0-4": Asphalt
	M					1	ML	4-12": Gravelly SILT
	M					2	SP	1-5': Med-dark brownish gray, very fine to med SAND, with trace silt (~3-4%), moist, loose, no odor, no sheen.
	M	11.6				3		
	M	9.7				4		SAA
	M	9.2				5	SM	SAA
	M					6	ML	5-6 ft: SAND, as above, but mixed with brown, firm silt, moist, loose, no odor, no sheen
	VM					7		6-10 ft: SILT, Brown to gray (mostly gray), firm, moist, no odor, no sheen, with large wood fragment at 6.5 ft
▽	Wet					8		• See D-19 for remainder of log
						9		
						10	TD	
						11		

Well Completion/ Backfill Material



NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No: D-15
PAGE 1 of 2

D-15

PROJECT:	1001348	DRILLER:	Cascade
LOCATION:	1656 E J St, Tacoma	DRILL METHOD:	Air Knife/Hand Auger
CLIENT:	CEMC	SAMPLE METHOD:	to 8ft
DATE:	1-11-2019	HOLE DIAMETER:	
LOGGED BY:	TD	HOLE DEPTH:	Geoprobe below

WELL DIAMETER:
WELL DEPTH:
WELL CASING:
WELL SCREEN:
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS/6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0	X	0-7" concrete	
						1	SM	7" to 2': Dark gray to dark brown silty, very fine to fine SAND, med. dense, moist, no odor, no sheen	
	M	4.3				2		-large rock at 2' (7")	
	M					3	SP-SM	2' to 5.5': Dark brownish gray, very fine to fine SAND with (~7%) little silt, trace shells, moist, loose to med dense, no odor, no sheen,	
		4.3				4			
	VM					5	SP-SM	At 5' SAA but with some gravel up to 1.5 inches	
▽	wet	7.5→5'							
	wet	33.0 5.5'	SM			6	~~SP-SM~~ SM	Sample D-15-5.5@10:50 At 5.5', SAA, but with more silt (~12-15%) and no gravel, moderate petrol odor, moderate sheen, wet. (=very fine to fine SAND with silt)	
		208 silt 7.5				7			
	wet	98→8'				8	ML	7.5 to 14.5 ft: Med-dark brownish gray SILT, firm, wet, with plant debris, moderate petrol. odor, v. light sheen.	
						9		SAA at 8': no sheen, weaker odor (mod, weak)	
	wet	20.9				10		SAA at 10': no sheen, weak petrol odor	
						11	ML	Sample ~~SS~~ D-15-8 @ 11:30	

NOTES:

leidos

MONITORING WELL/ BORING LOG

BORING/WELL No:
PAGE 1 of

PROJECT: 101348
LOCATION: Tacoma
CLIENT:
DATE: 1-15 to 16-2019
LOGGED BY: YD

DRILLER: Cascade
DRILL METHOD: Hand Auger to 8', Geoprobe below
SAMPLE METHOD:
HOLE DIAMETER:
HOLE DEPTH:

WELL DIAMETER:
WELL DEPTH: Ecology Well
WELL CASING:
WELL SCREEN: # BKF958
FILTER PACK:
CASING ELEVATION:

Water Level	Moisture Content	PID (ppm)	BLOWS / 6"	Sample Recovery	Sample Interval	DEPTH (ft.)	SOIL TYPE	LITHOLOGY / DESCRIPTION	Well Completion/ Backfill Material
						0		Surface gravel fines	
	M					1	SP	0.2-6.5 ft: Dark brown vf-med SAND with trace silt (3-5%) and little gravel (~1/4"), Moist to about 3 ft, wet below. Below from 2-3.5 ft with brick fragments, Gravel not present below 3 ft. Shells below	
	M					2			
▽	VM						SP	wet at 3 ft SAA, but wet	
=	W	3.5				3			
		161				4		SAA Odor begins in SAND at 4 ft:	
		407					SP	• 4 ft: moderate odor, slight sheen (161)	
		763				5		• 4.5 ft: strong odor, medium sheen (407)	
		410						• 5 ft: strong odor, medium sheen (763)	
		170				6		• 5.5 ft: moderate odor, slight sheen (410)	
								Sample MW-32-5 @ 16:30 Regular analyses + Method B (w/ EMC sample)	
		70.5				7	SM	Very fine to fine SAND 6.5-8 ft: Silty SAND, SAND with little silt, and silt interbedded; average overall silt = 15-20%. Dense, firm, wet. Sample MW-32-7.5 @ 0920 - decreasing odor with depth too	
		16.2				8			
		18.3					ML	8-10': Grayish brown SILT, with plant debris. Firm, wet to very moist, weak petroleum odor in upper feet.	
						9			
							ML		
		6.3				10	TD		TD
						11			

Description Order: Color, consistency (hard silt or dense sand), descriptive adjective for minor soil type (silty, sandy, or gravelly if >15%), descriptive adjective for main soil type (fine to coarse), Main soil type all caps (SAND), descriptive adjective "with" (medium plasticity (for silt); include %; with 10% gravel); odor; sheen.
EX: Gray, dense, silty, fine to medium SAND with 20% silt and 10% fine gravel; strong odor; slight sheen.
NOTES:

Appendix D

Laboratory Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Shira DeGrood
AECOM
888 Southwest 5th Avenue
Suite 600
Portland, Oregon 97204

Generated 4/3/2023 11:08:32 AM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-119221-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
4/3/2023 11:08:32 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 10
Surrogate Summary 29
QC Sample Results 33
QC Association Summary 46
Lab Chronicle 51
Certification Summary 58
Method Summary 59
Sample Summary 60
Chain of Custody 61
Receipt Checklists 64

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

GC VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
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
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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

Job ID: 410-119221-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-119221-1

Receipt
The samples were received on 3/17/2023 10:24 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.8°C, 0.9°C, 1.1°C, 1.2°C and 2.0°C

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): DUP-2-WD-230314 (410-119221-29). The container labels list DUP-1-W-2023031423, while the COC lists DUP-2-W-20230314. The client was contacted, and the lab was instructed to follow the COC.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-23-W-230314 (410-119221-7). The container labels list 03/14/23 12:30 with no ID, while the COC lists MW-23-W-20230314 03/14/23 12:30.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method NWTPH_Gx: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): MW-11-W-230313 (410-119221-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: MW-38-W-230315 (410-119221-14). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-10-W-230313 — Lab Sample ID: 410-119221-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1500		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	410		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-11-W-230313 — Lab Sample ID: 410-119221-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1800	F1	120	52	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	360		290	120	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-12-W-230314 — Lab Sample ID: 410-119221-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	61	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3200		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	2000		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-14-W-230315 — Lab Sample ID: 410-119221-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	110		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-21-W-230313 — Lab Sample ID: 410-119221-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	200	F1	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	280		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-22-W-230315 — Lab Sample ID: 410-119221-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	180	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1700		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1400		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-23-W-230314 — Lab Sample ID: 410-119221-7

No Detections.

Client Sample ID: MW-24-W-230314 — Lab Sample ID: 410-119221-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1000		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	220	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-26-W-230314 — Lab Sample ID: 410-119221-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	990		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	360		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-30-W-230314 — Lab Sample ID: 410-119221-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	79	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	9000		210	96	ug/L	2		NWTPH-Dx	Total/NA
C24-C40	2000		530	210	ug/L	2		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-31-W-230315 — Lab Sample ID: 410-119221-11

No Detections.

Client Sample ID: MW-36-W-230315 — Lab Sample ID: 410-119221-12

No Detections.

Client Sample ID: MW-37-W-230315 — Lab Sample ID: 410-119221-13

No Detections.

Client Sample ID: MW-38-W-230315 — Lab Sample ID: 410-119221-14

No Detections.

Client Sample ID: MW-39-W-230316 — Lab Sample ID: 410-119221-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	59	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1200		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	120	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RMW-01-W-230316 — Lab Sample ID: 410-119221-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	110	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	930		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	550		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-02A-W-230314 — Lab Sample ID: 410-119221-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1400		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	580		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-07-W-230315 — Lab Sample ID: 410-119221-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	210		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	130	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-08-W-230314 — Lab Sample ID: 410-119221-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1700		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	440		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-09-W-230315 — Lab Sample ID: 410-119221-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	2400		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1100		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-12-W-230316 — Lab Sample ID: 410-119221-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	280		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	270		260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-17-W-230314 — Lab Sample ID: 410-119221-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	150		100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-18-W-230314 — Lab Sample ID: 410-119221-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	500		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	300		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-19-W-230314 — Lab Sample ID: 410-119221-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	420		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	160	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-24-W-230315 — Lab Sample ID: 410-119221-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	65	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-25-W-230315 — Lab Sample ID: 410-119221-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	960		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	360		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-26-W-230315 — Lab Sample ID: 410-119221-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	240		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	140	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-27-W-230315 — Lab Sample ID: 410-119221-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	800		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-2-WD-230314 — Lab Sample ID: 410-119221-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	53	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1400		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-1-T-230316 — Lab Sample ID: 410-119221-30

No Detections.

Client Sample ID: TB-2-T-230316 — Lab Sample ID: 410-119221-31

No Detections.

Client Sample ID: TB-3-T-230316 — Lab Sample ID: 410-119221-32

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample ID: MW-10-W-230313
Lab Sample ID: 410-119221-1

Date Collected: 03/13/23 15:45
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/24/23 16:22	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/24/23 16:22	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/24/23 16:22	1
Toluene	ND		1.0	0.30	ug/L			03/24/23 16:22	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/24/23 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/24/23 16:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/24/23 16:22*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/24/23 16:22*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 16:22*	*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	43	ug/L			03/20/23 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*03/20/23 21:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1500		100	46	ug/L		03/27/23 14:34	03/28/23 13:20	1
C24-C40	410		260	100	ug/L		03/27/23 14:34	03/28/23 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*64*		*50 - 150*	*03/27/23 14:34*	*03/28/23 13:20*	*1*

Client Sample ID: MW-11-W-230313
Lab Sample ID: 410-119221-2

Date Collected: 03/13/23 14:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/24/23 16:45	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/24/23 16:45	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/24/23 16:45	1
Toluene	ND		1.0	0.30	ug/L			03/24/23 16:45	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/24/23 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/24/23 16:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/24/23 16:45*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/24/23 16:45*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 16:45*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	250	43	ug/L			03/20/23 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*	*cn*	*50 - 150*		*03/20/23 22:20*	*1*

Client Sample ID: MW-11-W-230313
Lab Sample ID: 410-119221-2
Date Collected: 03/13/23 14:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1800	F1	120	52	ug/L		03/27/23 14:34	03/28/23 14:05	1
C24-C40	360		290	120	ug/L		03/27/23 14:34	03/28/23 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*03/27/23 14:34*	*03/28/23 14:05*	*1*

Client Sample ID: MW-12-W-230314
Lab Sample ID: 410-119221-3
Date Collected: 03/14/23 10:45
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/24/23 17:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/24/23 17:56	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/24/23 17:56	1
Toluene	ND		1.0	0.30	ug/L			03/24/23 17:56	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/24/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/24/23 17:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*03/24/23 17:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/24/23 17:56*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 17:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	61	J	250	43	ug/L			03/20/23 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*03/20/23 23:37*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	3200		100	46	ug/L		03/27/23 14:34	03/28/23 16:27	1
C24-C40	2000		250	100	ug/L		03/27/23 14:34	03/28/23 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*51*		*50 - 150*	*03/27/23 14:34*	*03/28/23 16:27*	*1*

Client Sample ID: MW-14-W-230315
Lab Sample ID: 410-119221-4
Date Collected: 03/15/23 17:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 22:37	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 22:37	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 22:37	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 22:37	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 22:37	1

Client Sample ID: MW-14-W-230315
Lab Sample ID: 410-119221-4
Date Collected: 03/15/23 17:20
Matrix: Water
Date Received: 03/17/23 10:24

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/28/23 22:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 22:37*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/28/23 22:37*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/28/23 22:37*	*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	43	ug/L			03/21/23 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*03/21/23 00:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**110**		100	46	ug/L		03/29/23 16:08	03/30/23 14:56	1
C24-C40	ND		260	100	ug/L		03/29/23 16:08	03/30/23 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*03/29/23 16:08*	*03/30/23 14:56*	*1*

Client Sample ID: MW-21-W-230313
Lab Sample ID: 410-119221-5
Date Collected: 03/13/23 17:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	F2 F1	1.0	0.30	ug/L			03/24/23 18:20	1
Ethylbenzene	ND	F2 F1	1.0	0.40	ug/L			03/24/23 18:20	1
Methyl tertiary butyl ether	ND	F2 F1	1.0	0.20	ug/L			03/24/23 18:20	1
Toluene	ND	F2 F1	1.0	0.30	ug/L			03/24/23 18:20	1
Xylenes, Total	ND	F2 F1	6.0	1.4	ug/L			03/24/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/24/23 18:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/24/23 18:20*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/24/23 18:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 18:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 00:28*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**200**	**F1**	100	47	ug/L		03/27/23 14:34	03/28/23 15:19	1
C24-C40	**280**		260	100	ug/L		03/27/23 14:34	03/28/23 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*03/27/23 14:34*	*03/28/23 15:19*	*1*

Client Sample ID: MW-22-W-230315
Lab Sample ID: 410-119221-6

Date Collected: 03/15/23 16:05
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 23:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 23:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 23:00	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 23:00	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/28/23 23:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 23:00*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/28/23 23:00*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/28/23 23:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**180**	**J**	250	43	ug/L			03/21/23 01:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 01:44*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1700**		100	47	ug/L		03/29/23 16:08	03/30/23 15:41	1
C24-C40	**1400**		260	100	ug/L		03/29/23 16:08	03/30/23 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*03/29/23 16:08*	*03/30/23 15:41*	*1*

Client Sample ID: MW-23-W-230314
Lab Sample ID: 410-119221-7

Date Collected: 03/14/23 12:30
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/24/23 19:31	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/24/23 19:31	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/24/23 19:31	1
Toluene	ND		1.0	0.30	ug/L			03/24/23 19:31	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/24/23 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/24/23 19:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/24/23 19:31*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/24/23 19:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 19:31*	*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	43	ug/L			03/21/23 02:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 02:10*	*1*

Client Sample ID: MW-23-W-230314
Lab Sample ID: 410-119221-7

Date Collected: 03/14/23 12:30
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		03/27/23 14:34	03/28/23 17:35	1
C24-C40	ND		260	100	ug/L		03/27/23 14:34	03/28/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*71*		*50 - 150*	*03/27/23 14:34*	*03/28/23 17:35*	*1*

Client Sample ID: MW-24-W-230314
Lab Sample ID: 410-119221-8

Date Collected: 03/14/23 17:30
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 18:53	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 18:53	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 18:53	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 18:53	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/27/23 18:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*03/27/23 18:53*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 18:53*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/27/23 18:53*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*03/21/23 02:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1000**		100	46	ug/L		03/27/23 14:34	03/28/23 17:58	1
C24-C40	**220**	**J**	260	100	ug/L		03/27/23 14:34	03/28/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*67*		*50 - 150*	*03/27/23 14:34*	*03/28/23 17:58*	*1*

Client Sample ID: MW-26-W-230314
Lab Sample ID: 410-119221-9

Date Collected: 03/14/23 15:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 19:17	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 19:17	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 19:17	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 19:17	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 19:17	1

Client Sample ID: MW-26-W-230314
Lab Sample ID: 410-119221-9

Date Collected: 03/14/23 15:20
Matrix: Water
Date Received: 03/17/23 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/27/23 19:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/27/23 19:17*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 19:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 19:17*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 03:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*03/21/23 03:01*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**990**		100	46	ug/L		03/27/23 14:34	03/28/23 18:20	1
C24-C40	**360**		260	100	ug/L		03/27/23 14:34	03/28/23 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*86*		*50 - 150*	*03/27/23 14:34*	*03/28/23 18:20*	*1*

Client Sample ID: MW-30-W-230314
Lab Sample ID: 410-119221-10

Date Collected: 03/14/23 14:10
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 14:44	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 14:44	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 14:44	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 14:44	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/27/23 14:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*03/27/23 14:44*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 14:44*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/27/23 14:44*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**79**	**J**	250	43	ug/L			03/21/23 03:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*03/21/23 03:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**9000**		210	96	ug/L		03/27/23 14:34	03/29/23 13:44	2
C24-C40	**2000**		530	210	ug/L		03/27/23 14:34	03/29/23 13:44	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*74*		*50 - 150*	*03/27/23 14:34*	*03/29/23 13:44*	*2*

Client Sample ID: MW-31-W-230315
Lab Sample ID: 410-119221-11

Date Collected: 03/15/23 09:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 23:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 23:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 23:24	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 23:24	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/28/23 23:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 23:24*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/28/23 23:24*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/28/23 23:24*	*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	43	ug/L			03/21/23 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*03/21/23 04:43*	*1*

Client Sample ID: MW-36-W-230315
Lab Sample ID: 410-119221-12

Date Collected: 03/15/23 13:50
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 23:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 23:48	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 23:48	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 23:48	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/28/23 23:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 23:48*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/28/23 23:48*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/28/23 23:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*03/21/23 05:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		03/29/23 16:08	03/30/23 16:26	1
C24-C40	ND		260	100	ug/L		03/29/23 16:08	03/30/23 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*03/29/23 16:08*	*03/30/23 16:26*	*1*

Client Sample ID: MW-37-W-230315
Lab Sample ID: 410-119221-13

Date Collected: 03/15/23 13:10
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 00:11	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 00:11	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 00:11	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 00:11	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/29/23 00:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/29/23 00:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/29/23 00:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 00:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*03/21/23 05:35*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		03/29/23 16:08	03/30/23 16:49	1
C24-C40	ND		260	100	ug/L		03/29/23 16:08	03/30/23 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*54*		*50 - 150*	*03/29/23 16:08*	*03/30/23 16:49*	*1*

Client Sample ID: MW-38-W-230315
Lab Sample ID: 410-119221-14

Date Collected: 03/15/23 12:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 00:35	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 00:35	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 00:35	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 00:35	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 00:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*03/29/23 00:35*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 00:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 00:35*	*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	43	ug/L			03/21/23 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*03/21/23 06:00*	*1*

Client Sample ID: MW-38-W-230315
Lab Sample ID: 410-119221-14

Date Collected: 03/15/23 12:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	cn	100	46	ug/L		03/29/23 16:08	03/30/23 17:11	1
C24-C40	ND	cn	260	100	ug/L		03/29/23 16:08	03/30/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*5*	*S1- cn*	*50 - 150*	*03/29/23 16:08*	*03/30/23 17:11*	*1*

Client Sample ID: MW-39-W-230316
Lab Sample ID: 410-119221-15

Date Collected: 03/16/23 09:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 16:14	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 16:14	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 16:14	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 16:14	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/29/23 16:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/29/23 16:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 16:14*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 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)	**59**	**J**	250	43	ug/L			03/21/23 06:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 06:25*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**		100	46	ug/L		03/29/23 16:08	03/30/23 17:34	1
C24-C40	**120**	**J**	260	100	ug/L		03/29/23 16:08	03/30/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*85*		*50 - 150*	*03/29/23 16:08*	*03/30/23 17:34*	*1*

Client Sample ID: RMW-01-W-230316
Lab Sample ID: 410-119221-16

Date Collected: 03/16/23 12:15
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 16:02	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 16:02	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 16:02	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 16:02	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 16:02	1

Client Sample ID: RMW-01-W-230316
Lab Sample ID: 410-119221-16

Date Collected: 03/16/23 12:15
Matrix: Water
Date Received: 03/17/23 10:24

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*03/29/23 16:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/29/23 16:02*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 16:02*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 16:02*	*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	43	ug/L			03/21/23 06:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 06:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	930		100	46	ug/L		03/29/23 16:08	03/30/23 18:19	1
C24-C40	550		260	100	ug/L		03/29/23 16:08	03/30/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*03/29/23 16:08*	*03/30/23 18:19*	*1*

Client Sample ID: D-02A-W-230314
Lab Sample ID: 410-119221-17

Date Collected: 03/14/23 10:45
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 15:55	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 15:55	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 15:55	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 15:55	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/27/23 15:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/27/23 15:55*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 15:55*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 15:55*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 07:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*03/21/23 07:15*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1400		110	48	ug/L		03/27/23 14:34	03/28/23 18:43	1
C24-C40	580		270	110	ug/L		03/27/23 14:34	03/28/23 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*03/27/23 14:34*	*03/28/23 18:43*	*1*

Client Sample ID: D-07-W-230315
Lab Sample ID: 410-119221-18

Date Collected: 03/15/23 16:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 01:03	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 01:03	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 01:03	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 01:03	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/29/23 01:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/29/23 01:03*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 01:03*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 01:03*	*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	43	ug/L			03/21/23 07:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 07:41*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	210		100	47	ug/L		03/29/23 16:08	03/30/23 18:42	1
C24-C40	130	J	260	100	ug/L		03/29/23 16:08	03/30/23 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*87*		*50 - 150*	*03/29/23 16:08*	*03/30/23 18:42*	*1*

Client Sample ID: D-08-W-230314
Lab Sample ID: 410-119221-19

Date Collected: 03/14/23 12:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 16:19	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 16:19	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 16:19	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 16:19	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*03/27/23 16:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*03/27/23 16:19*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 16:19*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/27/23 16:19*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 08:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 08:07*	*1*

Client Sample ID: D-08-W-230314
Lab Sample ID: 410-119221-19

Date Collected: 03/14/23 12:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1700		100	46	ug/L		03/27/23 14:34	03/28/23 19:06	1
C24-C40	440		260	100	ug/L		03/27/23 14:34	03/28/23 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*03/27/23 14:34*	*03/28/23 19:06*	*1*

Client Sample ID: D-09-W-230315
Lab Sample ID: 410-119221-20

Date Collected: 03/15/23 10:05
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 01:26	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 01:26	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 01:26	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 01:26	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 01:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/29/23 01:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/29/23 01:26*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 01:26*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 01:26*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 08:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 08:33*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	2400		100	46	ug/L		03/29/23 16:08	03/30/23 19:05	1
C24-C40	1100		260	100	ug/L		03/29/23 16:08	03/30/23 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*03/29/23 16:08*	*03/30/23 19:05*	*1*

Client Sample ID: D-12-W-230316
Lab Sample ID: 410-119221-21

Date Collected: 03/16/23 13:10
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 16:26	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 16:26	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 16:26	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 16:26	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 16:26	1

Client Sample ID: D-12-W-230316
Lab Sample ID: 410-119221-21

Date Collected: 03/16/23 13:10
Matrix: Water
Date Received: 03/17/23 10:24

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 16:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/29/23 16:26*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/29/23 16:26*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/29/23 16:26*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/21/23 21:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**280**		100	47	ug/L		03/29/23 16:08	03/30/23 19:27	1
C24-C40	**270**		260	100	ug/L		03/29/23 16:08	03/30/23 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*84*		*50 - 150*	*03/29/23 16:08*	*03/30/23 19:27*	*1*

Client Sample ID: D-17-W-230314
Lab Sample ID: 410-119221-22

Date Collected: 03/14/23 14:20
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 16:43	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 16:43	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 16:43	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 16:43	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/27/23 16:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/27/23 16:43*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/27/23 16:43*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 16:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/21/23 21:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**150**		100	47	ug/L		03/27/23 14:34	03/28/23 19:28	1
C24-C40	ND		260	100	ug/L		03/27/23 14:34	03/28/23 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*91*		*50 - 150*	*03/27/23 14:34*	*03/28/23 19:28*	*1*

Client Sample ID: D-18-W-230314
Lab Sample ID: 410-119221-23

Date Collected: 03/14/23 16:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 17:06	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 17:06	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 17:06	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 17:06	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/27/23 17:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/27/23 17:06*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 17:06*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/27/23 17:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 22:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	500		100	46	ug/L		03/27/23 14:34	03/28/23 19:51	1
C24-C40	300		250	100	ug/L		03/27/23 14:34	03/28/23 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*93*		*50 - 150*	*03/27/23 14:34*	*03/28/23 19:51*	*1*

Client Sample ID: D-19-W-230314
Lab Sample ID: 410-119221-24

Date Collected: 03/14/23 17:35
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 17:30	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 17:30	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 17:30	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 17:30	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/27/23 17:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/27/23 17:30*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*03/27/23 17:30*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 17:30*	*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	43	ug/L			03/21/23 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 22:29*	*1*

Client Sample ID: D-19-W-230314
Lab Sample ID: 410-119221-24

Date Collected: 03/14/23 17:35
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	420		100	46	ug/L		03/27/23 14:34	03/28/23 20:14	1
C24-C40	160	J	260	100	ug/L		03/27/23 14:34	03/28/23 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*93*		*50 - 150*	*03/27/23 14:34*	*03/28/23 20:14*	*1*

Client Sample ID: D-24-W-230315
Lab Sample ID: 410-119221-25

Date Collected: 03/15/23 14:45
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 01:50	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 01:50	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 01:50	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 01:50	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/29/23 01:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/29/23 01:50*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 01:50*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 01:50*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/21/23 22:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	65	J	100	46	ug/L		03/29/23 16:08	03/30/23 19:50	1
C24-C40	ND		250	100	ug/L		03/29/23 16:08	03/30/23 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*87*		*50 - 150*	*03/29/23 16:08*	*03/30/23 19:50*	*1*

Client Sample ID: D-25-W-230315
Lab Sample ID: 410-119221-26

Date Collected: 03/15/23 12:05
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 02:14	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 02:14	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 02:14	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 02:14	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 02:14	1

Client Sample ID: D-25-W-230315
Lab Sample ID: 410-119221-26

Date Collected: 03/15/23 12:05
Matrix: Water
Date Received: 03/17/23 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/29/23 02:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/29/23 02:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 02:14*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 02:14*	*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	43	ug/L			03/21/23 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 23:20*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**960**		100	46	ug/L		03/29/23 16:08	03/30/23 20:12	1
C24-C40	**360**		260	100	ug/L		03/29/23 16:08	03/30/23 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*71*		*50 - 150*	*03/29/23 16:08*	*03/30/23 20:12*	*1*

Client Sample ID: D-26-W-230315
Lab Sample ID: 410-119221-27

Date Collected: 03/15/23 11:45
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 21:49	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 21:49	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 21:49	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 21:49	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/28/23 21:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 21:49*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/28/23 21:49*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/28/23 21:49*	*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	43	ug/L			03/21/23 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*03/21/23 23:46*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**240**		100	46	ug/L		03/29/23 16:08	03/30/23 20:35	1
C24-C40	**140**	**J**	250	100	ug/L		03/29/23 16:08	03/30/23 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*88*		*50 - 150*	*03/29/23 16:08*	*03/30/23 20:35*	*1*

Client Sample ID: D-27-W-230315
Lab Sample ID: 410-119221-28

Date Collected: 03/15/23 10:40
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/28/23 22:13	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 22:13	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 22:13	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 22:13	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*03/28/23 22:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 22:13*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/28/23 22:13*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/28/23 22:13*	*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	43	ug/L			03/22/23 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/22/23 01:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1900		100	46	ug/L		03/29/23 16:08	03/30/23 20:58	1
C24-C40	800		260	100	ug/L		03/29/23 16:08	03/30/23 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*03/29/23 16:08*	*03/30/23 20:58*	*1*

Client Sample ID: DUP-2-WD-230314
Lab Sample ID: 410-119221-29

Date Collected: 03/14/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/27/23 17:54	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 17:54	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 17:54	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 17:54	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/27/23 17:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/27/23 17:54*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/27/23 17:54*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/27/23 17:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	53	J	250	43	ug/L			03/22/23 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/22/23 01:28*	*1*

Client Sample ID: DUP-2-WD-230314
Lab Sample ID: 410-119221-29

Date Collected: 03/14/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	3900		100	46	ug/L		03/27/23 14:34	03/28/23 20:36	1
C24-C40	1400		260	100	ug/L		03/27/23 14:34	03/28/23 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*65*		*50 - 150*	*03/27/23 14:34*	*03/28/23 20:36*	*1*

Client Sample ID: TB-1-T-230316
Lab Sample ID: 410-119221-30

Date Collected: 03/16/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 14:27	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 14:27	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 14:27	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 14:27	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 14:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/29/23 14:27*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/29/23 14:27*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 14:27*	*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	43	ug/L			03/21/23 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/21/23 19:56*	*1*

Client Sample ID: TB-2-T-230316
Lab Sample ID: 410-119221-31

Date Collected: 03/16/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 14:51	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 14:51	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 14:51	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 14:51	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 14:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/29/23 14:51*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 14:51*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/29/23 14:51*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 20:22	1

Client Sample ID: TB-2-T-230316 — **Lab Sample ID: 410-119221-31**
Date Collected: 03/16/23 00:00 — **Matrix: Water**
Date Received: 03/17/23 10:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/21/23 20:22*	*1*

Client Sample ID: TB-3-T-230316 — **Lab Sample ID: 410-119221-32**
Date Collected: 03/16/23 00:00 — **Matrix: Water**
Date Received: 03/17/23 10:24

Method: SW846 8260D/UST - 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			03/29/23 15:14	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 15:14	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 15:14	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 15:14	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/29/23 15:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*03/29/23 15:14*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 15:14*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/29/23 15:14*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 20:47*	*1*

Surrogate Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DBFM	DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-119221-1	MW-10-W-230313	96	101	92	100
410-119221-2	MW-11-W-230313	96	100	92	100
410-119221-2 MS	MW-11-W-230313	95	102	95	100
410-119221-2 MSD	MW-11-W-230313	95	102	95	100
410-119221-3	MW-12-W-230314	97	102	94	100
410-119221-4	MW-14-W-230315	96	100	93	100
410-119221-5	MW-21-W-230313	96	101	92	100
410-119221-5 MS	MW-21-W-230313	95	101	94	101
410-119221-5 MSD	MW-21-W-230313	95	102	96	101
410-119221-6	MW-22-W-230315	96	100	94	100
410-119221-7	MW-23-W-230314	95	101	93	100
410-119221-8	MW-24-W-230314	95	97	93	100
410-119221-9	MW-26-W-230314	95	98	93	101
410-119221-10	MW-30-W-230314	96	102	93	100
410-119221-10 MS	MW-30-W-230314	95	102	96	100
410-119221-10 MSD	MW-30-W-230314	96	102	95	100
410-119221-11	MW-31-W-230315	96	100	93	100
410-119221-12	MW-36-W-230315	95	100	93	101
410-119221-13	MW-37-W-230315	96	100	94	100
410-119221-14	MW-38-W-230315	95	99	93	100
410-119221-15	MW-39-W-230316	97	101	93	100
410-119221-16	RMW-01-W-230316	94	98	93	100
410-119221-17	D-02A-W-230314	97	101	93	101
410-119221-18	D-07-W-230315	96	101	92	100
410-119221-19	D-08-W-230314	98	102	93	100
410-119221-20	D-09-W-230315	96	100	92	100
410-119221-21	D-12-W-230316	95	98	94	99
410-119221-22	D-17-W-230314	96	100	92	101
410-119221-23	D-18-W-230314	96	101	93	100
410-119221-24	D-19-W-230314	97	100	95	101
410-119221-25	D-24-W-230315	97	100	93	100
410-119221-26	D-25-W-230315	96	101	93	100
410-119221-27	D-26-W-230315	96	100	94	101
410-119221-28	D-27-W-230315	97	100	92	99
410-119221-29	DUP-2-WD-230314	96	100	94	100
410-119221-30	TB-1-T-230316	95	100	93	100
410-119221-31	TB-2-T-230316	95	100	92	99
410-119221-32	TB-3-T-230316	96	99	92	99
LCS 410-357164/4	Lab Control Sample	93	104	96	101
LCS 410-357726/4	Lab Control Sample	94	101	96	99
LCS 410-357728/4	Lab Control Sample	95	102	95	101
LCS 410-358264/4	Lab Control Sample	93	102	94	101
LCS 410-358641/4	Lab Control Sample	95	102	94	100
LCS 410-358643/4	Lab Control Sample	94	103	93	100
LCSD 410-357164/5	Lab Control Sample Dup	93	103	96	101
LCSD 410-357726/5	Lab Control Sample Dup	94	100	96	100
LCSD 410-357728/5	Lab Control Sample Dup	94	102	96	99
LCSD 410-358641/5	Lab Control Sample Dup	93	101	96	101
LCSD 410-358643/5	Lab Control Sample Dup	92	102	94	99

Surrogate Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DBFM	DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
MB 410-357164/6	Method Blank	95	100	94	100
MB 410-357726/6	Method Blank	94	98	93	101
MB 410-357728/6	Method Blank	96	101	94	101
MB 410-358264/5	Method Blank	94	100	93	101
MB 410-358641/6	Method Blank	95	98	92	100
MB 410-358643/6	Method Blank	95	99	92	100

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-119221-1	MW-10-W-230313	94
410-119221-2	MW-11-W-230313	97 cn
410-119221-2 MS	MW-11-W-230313	85
410-119221-2 MSD	MW-11-W-230313	88
410-119221-3	MW-12-W-230314	94
410-119221-4	MW-14-W-230315	98
410-119221-5	MW-21-W-230313	96
410-119221-5 MS	MW-21-W-230313	85
410-119221-5 MSD	MW-21-W-230313	87
410-119221-6	MW-22-W-230315	95
410-119221-7	MW-23-W-230314	95
410-119221-8	MW-24-W-230314	99
410-119221-9	MW-26-W-230314	98
410-119221-10	MW-30-W-230314	98
410-119221-11	MW-31-W-230315	98
410-119221-12	MW-36-W-230315	97
410-119221-13	MW-37-W-230315	97
410-119221-14	MW-38-W-230315	97
410-119221-15	MW-39-W-230316	96
410-119221-16	RMW-01-W-230316	95
410-119221-17	D-02A-W-230314	94
410-119221-18	D-07-W-230315	95
410-119221-19	D-08-W-230314	96
410-119221-20	D-09-W-230315	96
410-119221-21	D-12-W-230316	92
410-119221-22	D-17-W-230314	92
410-119221-23	D-18-W-230314	95
410-119221-24	D-19-W-230314	96
410-119221-25	D-24-W-230315	93
410-119221-26	D-25-W-230315	95
410-119221-27	D-26-W-230315	97
410-119221-28	D-27-W-230315	93

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)								
410-119221-29	DUP-2-WD-230314	93								
410-119221-30	TB-1-T-230316	96								
410-119221-31	TB-2-T-230316	93								
410-119221-32	TB-3-T-230316	95								
LCS 410-355407/6	Lab Control Sample	85								
LCS 410-355802/6	Lab Control Sample	83								
LCSD 410-355407/7	Lab Control Sample Dup	83								
LCSD 410-355802/7	Lab Control Sample Dup	84								
MB 410-355407/5	Method Blank	98								
MB 410-355802/5	Method Blank	95								

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	OTP (50-150)								
410-119221-1	MW-10-W-230313	64								
410-119221-1 DU	MW-10-W-230313	64								
410-119221-2	MW-11-W-230313	73								
410-119221-2 MS	MW-11-W-230313	62								
410-119221-3	MW-12-W-230314	51								
410-119221-3 DU	MW-12-W-230314	59								
410-119221-4	MW-14-W-230315	79								
410-119221-4 DU	MW-14-W-230315	74								
410-119221-5	MW-21-W-230313	73								
410-119221-5 MS	MW-21-W-230313	58								
410-119221-5 MSD	MW-21-W-230313	53								
410-119221-6	MW-22-W-230315	74								
410-119221-6 DU	MW-22-W-230315	71								
410-119221-7	MW-23-W-230314	71								
410-119221-8	MW-24-W-230314	67								
410-119221-9	MW-26-W-230314	86								
410-119221-10	MW-30-W-230314	74								
410-119221-12	MW-36-W-230315	83								
410-119221-13	MW-37-W-230315	54								
410-119221-14	MW-38-W-230315	5 S1- cn								
410-119221-15	MW-39-W-230316	85								
410-119221-16	RMW-01-W-230316	77								
410-119221-17	D-02A-W-230314	83								
410-119221-18	D-07-W-230315	87								
410-119221-19	D-08-W-230314	81								
410-119221-20	D-09-W-230315	74								
410-119221-21	D-12-W-230316	84								
410-119221-22	D-17-W-230314	91								
410-119221-23	D-18-W-230314	93								
410-119221-24	D-19-W-230314	93								
410-119221-25	D-24-W-230315	87								

Surrogate Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		OTP							
Lab Sample ID	Client Sample ID	(50-150)							
410-119221-26	D-25-W-230315	71							
410-119221-27	D-26-W-230315	88							
410-119221-28	D-27-W-230315	74							
410-119221-29	DUP-2-WD-230314	65							
LCS 410-357812/2-A	Lab Control Sample	65							
LCS 410-358796/2-A	Lab Control Sample	79							
LCSD 410-358796/3-A	Lab Control Sample Dup	64							
MB 410-357812/1-A	Method Blank	90							
MB 410-358796/1-A	Method Blank	85							

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-357164/6
Matrix: Water
Analysis Batch: 357164

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			03/24/23 13:29	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/24/23 13:29	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/24/23 13:29	1
Toluene	ND		1.0	0.30	ug/L			03/24/23 13:29	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/24/23 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/24/23 13:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/24/23 13:29*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/24/23 13:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/24/23 13:29*	*1*

Lab Sample ID: LCS 410-357164/4
Matrix: Water
Analysis Batch: 357164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.4		ug/L		102	80 - 120		
Ethylbenzene			20.0	20.8		ug/L		104	80 - 120		
Methyl tertiary butyl ether			20.0	18.3		ug/L		92	69 - 122		
Toluene			20.0	20.4		ug/L		102	80 - 120		
Xylenes, Total			60.0	62.0		ug/L		103	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 410-357164/5
Matrix: Water
Analysis Batch: 357164

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	20.1		ug/L		100	80 - 120	2	30
Ethylbenzene			20.0	20.3		ug/L		102	80 - 120	2	30
Methyl tertiary butyl ether			20.0	18.3		ug/L		91	69 - 122	0	30
Toluene			20.0	20.1		ug/L		100	80 - 120	2	30
Xylenes, Total			60.0	60.9		ug/L		102	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-119221-2 MS
Matrix: Water
Analysis Batch: 357164

Client Sample ID: MW-11-W-230313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	19.6		ug/L		98	80 - 120
Ethylbenzene	ND		20.0	19.7		ug/L		99	80 - 120
Methyl tertiary butyl ether	ND		20.0	17.2		ug/L		86	69 - 122
Toluene	ND		20.0	19.7		ug/L		99	80 - 120
Xylenes, Total	ND		60.0	59.2		ug/L		99	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 410-119221-2 MSD
Matrix: Water
Analysis Batch: 357164

Client Sample ID: MW-11-W-230313
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	20.9		ug/L		104	80 - 120	6	30
Ethylbenzene	ND		20.0	21.2		ug/L		106	80 - 120	7	30
Methyl tertiary butyl ether	ND		20.0	18.3		ug/L		91	69 - 122	6	30
Toluene	ND		20.0	20.9		ug/L		105	80 - 120	6	30
Xylenes, Total	ND		60.0	63.7		ug/L		106	80 - 120	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 410-119221-5 MS
Matrix: Water
Analysis Batch: 357164

Client Sample ID: MW-21-W-230313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND	F2 F1	20.0	9.28	F1	ug/L		46	80 - 120
Ethylbenzene	ND	F2 F1	20.0	9.11	F1	ug/L		46	80 - 120
Methyl tertiary butyl ether	ND	F2 F1	20.0	8.06	F1	ug/L		40	69 - 122
Toluene	ND	F2 F1	20.0	9.36	F1	ug/L		47	80 - 120
Xylenes, Total	ND	F2 F1	60.0	27.5	F1	ug/L		46	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-119221-5 MSD
Client Sample ID: MW-21-W-230313
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND	F2 F1	20.0	19.2	F2	ug/L		96	80 - 120	70	30
Ethylbenzene	ND	F2 F1	20.0	19.5	F2	ug/L		98	80 - 120	73	30
Methyl tertiary butyl ether	ND	F2 F1	20.0	16.6	F2	ug/L		83	69 - 122	69	30
Toluene	ND	F2 F1	20.0	19.4	F2	ug/L		97	80 - 120	70	30
Xylenes, Total	ND	F2 F1	60.0	58.8	F2	ug/L		98	80 - 120	72	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 410-357726/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.30	ug/L			03/27/23 13:37	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 13:37	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 13:37	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 13:37	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 13:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*03/27/23 13:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/27/23 13:37*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/27/23 13:37*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 13:37*	*1*

Lab Sample ID: LCS 410-357726/4
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 357726

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.4		ug/L		92	80 - 120		
Ethylbenzene			20.0	18.4		ug/L		92	80 - 120		
Methyl tertiary butyl ether			20.0	17.4		ug/L		87	69 - 122		
Toluene			20.0	18.4		ug/L		92	80 - 120		
Xylenes, Total			60.0	55.6		ug/L		93	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-357726/5
Matrix: Water
Analysis Batch: 357726

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	18.2		ug/L		91	80 - 120	2	30
Ethylbenzene			20.0	18.4		ug/L		92	80 - 120	0	30
Methyl tertiary butyl ether			20.0	17.3		ug/L		87	69 - 122	0	30
Toluene			20.0	18.8		ug/L		94	80 - 120	2	30
Xylenes, Total			60.0	56.1		ug/L		94	80 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 410-357728/6
Matrix: Water
Analysis Batch: 357728

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			03/27/23 13:49	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/27/23 13:49	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/27/23 13:49	1
Toluene	ND		1.0	0.30	ug/L			03/27/23 13:49	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/27/23 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/27/23 13:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*03/27/23 13:49*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/27/23 13:49*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/27/23 13:49*	*1*

Lab Sample ID: LCS 410-357728/4
Matrix: Water
Analysis Batch: 357728

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.3		ug/L		101	80 - 120		
Ethylbenzene			20.0	21.0		ug/L		105	80 - 120		
Methyl tertiary butyl ether			20.0	18.6		ug/L		93	69 - 122		
Toluene			20.0	20.4		ug/L		102	80 - 120		
Xylenes, Total			60.0	62.4		ug/L		104	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-357728/5
Matrix: Water
Analysis Batch: 357728

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	20.6		ug/L		103	80 - 120	2	30
Ethylbenzene			20.0	21.2		ug/L		106	80 - 120	1	30
Methyl tertiary butyl ether			20.0	19.1		ug/L		96	69 - 122	3	30
Toluene			20.0	20.9		ug/L		105	80 - 120	2	30
Xylenes, Total			60.0	63.5		ug/L		106	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 410-119221-10 MS
Matrix: Water
Analysis Batch: 357728

Client Sample ID: MW-30-W-230314
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		20.0	21.3		ug/L		107	80 - 120		
Ethylbenzene	ND		20.0	21.8		ug/L		109	80 - 120		
Methyl tertiary butyl ether	ND		20.0	18.8		ug/L		94	69 - 122		
Toluene	ND		20.0	21.7		ug/L		108	80 - 120		
Xylenes, Total	ND		60.0	65.2		ug/L		109	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 410-119221-10 MSD
Matrix: Water
Analysis Batch: 357728

Client Sample ID: MW-30-W-230314
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	21.2		ug/L		106	80 - 120	0	30
Ethylbenzene	ND		20.0	21.7		ug/L		108	80 - 120	1	30
Methyl tertiary butyl ether	ND		20.0	19.0		ug/L		95	69 - 122	1	30
Toluene	ND		20.0	21.8		ug/L		109	80 - 120	1	30
Xylenes, Total	ND		60.0	65.0		ug/L		108	80 - 120	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-358264/5
Matrix: Water
Analysis Batch: 358264

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			03/28/23 17:05	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/28/23 17:05	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/28/23 17:05	1
Toluene	ND		1.0	0.30	ug/L			03/28/23 17:05	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/28/23 17:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*03/28/23 17:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/28/23 17:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/28/23 17:05*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/28/23 17:05*	*1*

Lab Sample ID: LCS 410-358264/4
Matrix: Water
Analysis Batch: 358264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	20.0	20.1		ug/L		100	80 - 120
Ethylbenzene	20.0	20.6		ug/L		103	80 - 120
Methyl tertiary butyl ether	20.0	18.7		ug/L		93	69 - 122
Toluene	20.0	20.4		ug/L		102	80 - 120
Xylenes, Total	60.0	61.0		ug/L		102	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 410-358641/6
Matrix: Water
Analysis Batch: 358641

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			03/29/23 13:28	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 13:28	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 13:28	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 13:28	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 13:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 13:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/29/23 13:28*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 13:28*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 13:28*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-358641/4
Matrix: Water
Analysis Batch: 358641

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	16.9		ug/L		84	80 - 120		
Ethylbenzene			20.0	16.8		ug/L		84	80 - 120		
Methyl tertiary butyl ether			20.0	15.9		ug/L		80	69 - 122		
Toluene			20.0	17.1		ug/L		85	80 - 120		
Xylenes, Total			60.0	51.4		ug/L		86	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 410-358641/5
Matrix: Water
Analysis Batch: 358641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	16.7		ug/L		83	80 - 120	1	30
Ethylbenzene			20.0	16.8		ug/L		84	80 - 120	0	30
Methyl tertiary butyl ether			20.0	16.1		ug/L		80	69 - 122	1	30
Toluene			20.0	16.8		ug/L		84	80 - 120	2	30
Xylenes, Total			60.0	51.1		ug/L		85	80 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 410-358643/6
Matrix: Water
Analysis Batch: 358643

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			03/29/23 13:40	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/29/23 13:40	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/29/23 13:40	1
Toluene	ND		1.0	0.30	ug/L			03/29/23 13:40	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/29/23 13:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/29/23 13:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*03/29/23 13:40*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/29/23 13:40*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/29/23 13:40*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-358643/4
Matrix: Water
Analysis Batch: 358643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.9		ug/L		94	80 - 120		
Ethylbenzene			20.0	19.1		ug/L		95	80 - 120		
Methyl tertiary butyl ether			20.0	17.1		ug/L		86	69 - 122		
Toluene			20.0	18.9		ug/L		94	80 - 120		
Xylenes, Total			60.0	57.4		ug/L		96	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 410-358643/5
Matrix: Water
Analysis Batch: 358643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	19.2		ug/L		96	80 - 120	2	30
Ethylbenzene			20.0	19.6		ug/L		98	80 - 120	3	30
Methyl tertiary butyl ether			20.0	17.6		ug/L		88	69 - 122	3	30
Toluene			20.0	18.9		ug/L		95	80 - 120	0	30
Xylenes, Total			60.0	59.0		ug/L		98	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*92*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-355407/5
Matrix: Water
Analysis Batch: 355407

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	43	ug/L			03/20/23 19:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*03/20/23 19:55*	*1*

Lab Sample ID: LCS 410-355407/6
Matrix: Water
Analysis Batch: 355407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1040		ug/L		94	64 - 131		

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-355407/6
Matrix: Water
Analysis Batch: 355407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150

Lab Sample ID: LCSD 410-355407/7
Matrix: Water
Analysis Batch: 355407

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	1070		ug/L		97	64 - 131	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	83		50 - 150

Lab Sample ID: 410-119221-2 MS
Matrix: Water
Analysis Batch: 355407

Client Sample ID: MW-11-W-230313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND	cn	1120	1120		ug/L		100	80 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150

Lab Sample ID: 410-119221-2 MSD
Matrix: Water
Analysis Batch: 355407

Client Sample ID: MW-11-W-230313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND	cn	1120	1130		ug/L		101	80 - 120	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	88		50 - 150

Lab Sample ID: 410-119221-5 MS
Matrix: Water
Analysis Batch: 355407

Client Sample ID: MW-21-W-230313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND		1120	1160		ug/L		104	80 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	85		50 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-119221-5 MSD
Client Sample ID: MW-21-W-230313
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1130		ug/L		102	80 - 120	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*87*		*50 - 150*

Lab Sample ID: MB 410-355802/5
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/21/23 16:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/21/23 16:52*	*1*

Lab Sample ID: LCS 410-355802/6
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355802

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1110		ug/L		101	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*83*		*50 - 150*

Lab Sample ID: LCSD 410-355802/7
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1070		ug/L		98	64 - 131	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*84*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-357812/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 358157
Prep Batch: 357812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		03/27/23 14:34	03/28/23 12:34	1
C24-C40	ND		250	100	ug/L		03/27/23 14:34	03/28/23 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*90*		*50 - 150*	*03/27/23 14:34*	*03/28/23 12:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-357812/2-A
Matrix: Water
Analysis Batch: 358157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357812

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	195		ug/L		32	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*65*		*50 - 150*

Lab Sample ID: 410-119221-2 MS
Matrix: Water
Analysis Batch: 358157

Client Sample ID: MW-11-W-230313
Prep Type: Total/NA
Prep Batch: 357812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	1800	F1	687	2710	F1	ug/L		134	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*62*		*50 - 150*

Lab Sample ID: 410-119221-5 MS
Matrix: Water
Analysis Batch: 358157

Client Sample ID: MW-21-W-230313
Prep Type: Total/NA
Prep Batch: 357812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	200	F1	620	257	F1	ug/L		9	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*58*		*50 - 150*

Lab Sample ID: 410-119221-5 MSD
Matrix: Water
Analysis Batch: 358157

Client Sample ID: MW-21-W-230313
Prep Type: Total/NA
Prep Batch: 357812

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	200	F1	616	267	F1	ug/L		10	30 - 115	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*53*		*50 - 150*

Lab Sample ID: 410-119221-1 DU
Matrix: Water
Analysis Batch: 358157

Client Sample ID: MW-10-W-230313
Prep Type: Total/NA
Prep Batch: 357812

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	1500			1530		ug/L				2	20
C24-C40	410			396		ug/L				3	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*64*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-119221-3 DU
Matrix: Water
Analysis Batch: 358157

Client Sample ID: MW-12-W-230314
Prep Type: Total/NA
Prep Batch: 357812

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	3200			3210		ug/L				0.9	20
C24-C40	2000			984	F3	ug/L				66	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*59*		*50 - 150*

Lab Sample ID: MB 410-358796/1-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		03/29/23 16:08	03/30/23 13:48	1
C24-C40	ND		250	100	ug/L		03/29/23 16:08	03/30/23 13:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*85*		*50 - 150*	*03/29/23 16:08*	*03/30/23 13:48*	*1*

Lab Sample ID: LCS 410-358796/2-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	245		ug/L		41	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*79*		*50 - 150*

Lab Sample ID: LCSD 410-358796/3-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	242		ug/L		40	14 - 115	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*64*		*50 - 150*

Lab Sample ID: 410-119221-4 DU
Matrix: Water
Analysis Batch: 359187

Client Sample ID: MW-14-W-230315
Prep Type: Total/NA
Prep Batch: 358796

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	110			92.6	J	ug/L				16	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*74*		*50 - 150*

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: 410-119221-6 DU
Client Sample ID: MW-22-W-230315
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 359187
Prep Batch: 358796

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	1700			1810		ug/L				6	20
C24-C40	1400			1620		ug/L				11	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*71*		*50 - 150*

GC/MS VOA

Analysis Batch: 357164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-1	MW-10-W-230313	Total/NA	Water	8260D/UST	
410-119221-2	MW-11-W-230313	Total/NA	Water	8260D/UST	
410-119221-3	MW-12-W-230314	Total/NA	Water	8260D/UST	
410-119221-5	MW-21-W-230313	Total/NA	Water	8260D/UST	
410-119221-7	MW-23-W-230314	Total/NA	Water	8260D/UST	
MB 410-357164/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-357164/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-357164/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-119221-2 MS	MW-11-W-230313	Total/NA	Water	8260D/UST	
410-119221-2 MSD	MW-11-W-230313	Total/NA	Water	8260D/UST	
410-119221-5 MS	MW-21-W-230313	Total/NA	Water	8260D/UST	
410-119221-5 MSD	MW-21-W-230313	Total/NA	Water	8260D/UST	

Analysis Batch: 357726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-8	MW-24-W-230314	Total/NA	Water	8260D/UST	
410-119221-9	MW-26-W-230314	Total/NA	Water	8260D/UST	
MB 410-357726/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-357726/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-357726/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 357728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-10	MW-30-W-230314	Total/NA	Water	8260D/UST	
410-119221-17	D-02A-W-230314	Total/NA	Water	8260D/UST	
410-119221-19	D-08-W-230314	Total/NA	Water	8260D/UST	
410-119221-22	D-17-W-230314	Total/NA	Water	8260D/UST	
410-119221-23	D-18-W-230314	Total/NA	Water	8260D/UST	
410-119221-24	D-19-W-230314	Total/NA	Water	8260D/UST	
410-119221-29	DUP-2-WD-230314	Total/NA	Water	8260D/UST	
MB 410-357728/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-357728/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-357728/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-119221-10 MS	MW-30-W-230314	Total/NA	Water	8260D/UST	
410-119221-10 MSD	MW-30-W-230314	Total/NA	Water	8260D/UST	

Analysis Batch: 358264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-4	MW-14-W-230315	Total/NA	Water	8260D/UST	
410-119221-6	MW-22-W-230315	Total/NA	Water	8260D/UST	
410-119221-11	MW-31-W-230315	Total/NA	Water	8260D/UST	
410-119221-12	MW-36-W-230315	Total/NA	Water	8260D/UST	
410-119221-13	MW-37-W-230315	Total/NA	Water	8260D/UST	
410-119221-14	MW-38-W-230315	Total/NA	Water	8260D/UST	
410-119221-18	D-07-W-230315	Total/NA	Water	8260D/UST	
410-119221-20	D-09-W-230315	Total/NA	Water	8260D/UST	
410-119221-25	D-24-W-230315	Total/NA	Water	8260D/UST	
410-119221-26	D-25-W-230315	Total/NA	Water	8260D/UST	
410-119221-27	D-26-W-230315	Total/NA	Water	8260D/UST	
410-119221-28	D-27-W-230315	Total/NA	Water	8260D/UST	
MB 410-358264/5	Method Blank	Total/NA	Water	8260D/UST	

GC/MS VOA (Continued)

Analysis Batch: 358264 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-358264/4	Lab Control Sample	Total/NA	Water	8260D/UST	

Analysis Batch: 358641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-16	RMW-01-W-230316	Total/NA	Water	8260D/UST	
410-119221-21	D-12-W-230316	Total/NA	Water	8260D/UST	
410-119221-30	TB-1-T-230316	Total/NA	Water	8260D/UST	
410-119221-31	TB-2-T-230316	Total/NA	Water	8260D/UST	
410-119221-32	TB-3-T-230316	Total/NA	Water	8260D/UST	
MB 410-358641/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-358641/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-358641/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 358643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-15	MW-39-W-230316	Total/NA	Water	8260D/UST	
MB 410-358643/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-358643/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-358643/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 355407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-1	MW-10-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-2	MW-11-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-3	MW-12-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-4	MW-14-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-5	MW-21-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-6	MW-22-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-7	MW-23-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-8	MW-24-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-9	MW-26-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-10	MW-30-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-11	MW-31-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-12	MW-36-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-13	MW-37-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-14	MW-38-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-15	MW-39-W-230316	Total/NA	Water	NWTPH-Gx	
410-119221-16	RMW-01-W-230316	Total/NA	Water	NWTPH-Gx	
410-119221-17	D-02A-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-18	D-07-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-19	D-08-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-20	D-09-W-230315	Total/NA	Water	NWTPH-Gx	
MB 410-355407/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-355407/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-355407/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-119221-2 MS	MW-11-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-2 MSD	MW-11-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-5 MS	MW-21-W-230313	Total/NA	Water	NWTPH-Gx	
410-119221-5 MSD	MW-21-W-230313	Total/NA	Water	NWTPH-Gx	

GC VOA

Analysis Batch: 355802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-21	D-12-W-230316	Total/NA	Water	NWTPH-Gx	
410-119221-22	D-17-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-23	D-18-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-24	D-19-W-230314	Total/NA	Water	NWTPH-Gx	
410-119221-25	D-24-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-26	D-25-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-27	D-26-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-28	D-27-W-230315	Total/NA	Water	NWTPH-Gx	
410-119221-29	DUP-2-WD-230314	Total/NA	Water	NWTPH-Gx	
410-119221-30	TB-1-T-230316	Total/NA	Water	NWTPH-Gx	
410-119221-31	TB-2-T-230316	Total/NA	Water	NWTPH-Gx	
410-119221-32	TB-3-T-230316	Total/NA	Water	NWTPH-Gx	
MB 410-355802/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-355802/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-355802/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 357812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-1	MW-10-W-230313	Total/NA	Water	3510C	
410-119221-2	MW-11-W-230313	Total/NA	Water	3510C	
410-119221-3	MW-12-W-230314	Total/NA	Water	3510C	
410-119221-5	MW-21-W-230313	Total/NA	Water	3510C	
410-119221-7	MW-23-W-230314	Total/NA	Water	3510C	
410-119221-8	MW-24-W-230314	Total/NA	Water	3510C	
410-119221-9	MW-26-W-230314	Total/NA	Water	3510C	
410-119221-10	MW-30-W-230314	Total/NA	Water	3510C	
410-119221-17	D-02A-W-230314	Total/NA	Water	3510C	
410-119221-19	D-08-W-230314	Total/NA	Water	3510C	
410-119221-22	D-17-W-230314	Total/NA	Water	3510C	
410-119221-23	D-18-W-230314	Total/NA	Water	3510C	
410-119221-24	D-19-W-230314	Total/NA	Water	3510C	
410-119221-29	DUP-2-WD-230314	Total/NA	Water	3510C	
MB 410-357812/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-357812/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-119221-2 MS	MW-11-W-230313	Total/NA	Water	3510C	
410-119221-5 MS	MW-21-W-230313	Total/NA	Water	3510C	
410-119221-5 MSD	MW-21-W-230313	Total/NA	Water	3510C	
410-119221-1 DU	MW-10-W-230313	Total/NA	Water	3510C	
410-119221-3 DU	MW-12-W-230314	Total/NA	Water	3510C	

Analysis Batch: 358157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-1	MW-10-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-2	MW-11-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-3	MW-12-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-5	MW-21-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-7	MW-23-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-8	MW-24-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-9	MW-26-W-230314	Total/NA	Water	NWTPH-Dx	357812

GC Semi VOA (Continued)

Analysis Batch: 358157 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-10	MW-30-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-17	D-02A-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-19	D-08-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-22	D-17-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-23	D-18-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-24	D-19-W-230314	Total/NA	Water	NWTPH-Dx	357812
410-119221-29	DUP-2-WD-230314	Total/NA	Water	NWTPH-Dx	357812
MB 410-357812/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	357812
LCS 410-357812/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	357812
410-119221-2 MS	MW-11-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-5 MS	MW-21-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-5 MSD	MW-21-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-1 DU	MW-10-W-230313	Total/NA	Water	NWTPH-Dx	357812
410-119221-3 DU	MW-12-W-230314	Total/NA	Water	NWTPH-Dx	357812

Prep Batch: 358796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-4	MW-14-W-230315	Total/NA	Water	3510C	
410-119221-6	MW-22-W-230315	Total/NA	Water	3510C	
410-119221-12	MW-36-W-230315	Total/NA	Water	3510C	
410-119221-13	MW-37-W-230315	Total/NA	Water	3510C	
410-119221-14	MW-38-W-230315	Total/NA	Water	3510C	
410-119221-15	MW-39-W-230316	Total/NA	Water	3510C	
410-119221-16	RMW-01-W-230316	Total/NA	Water	3510C	
410-119221-18	D-07-W-230315	Total/NA	Water	3510C	
410-119221-20	D-09-W-230315	Total/NA	Water	3510C	
410-119221-21	D-12-W-230316	Total/NA	Water	3510C	
410-119221-25	D-24-W-230315	Total/NA	Water	3510C	
410-119221-26	D-25-W-230315	Total/NA	Water	3510C	
410-119221-27	D-26-W-230315	Total/NA	Water	3510C	
410-119221-28	D-27-W-230315	Total/NA	Water	3510C	
MB 410-358796/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-358796/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-358796/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-119221-4 DU	MW-14-W-230315	Total/NA	Water	3510C	
410-119221-6 DU	MW-22-W-230315	Total/NA	Water	3510C	

Analysis Batch: 359187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-4	MW-14-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-6	MW-22-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-12	MW-36-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-13	MW-37-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-14	MW-38-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-15	MW-39-W-230316	Total/NA	Water	NWTPH-Dx	358796
410-119221-16	RMW-01-W-230316	Total/NA	Water	NWTPH-Dx	358796
410-119221-18	D-07-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-20	D-09-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-21	D-12-W-230316	Total/NA	Water	NWTPH-Dx	358796
410-119221-25	D-24-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-26	D-25-W-230315	Total/NA	Water	NWTPH-Dx	358796

GC Semi VOA (Continued)

Analysis Batch: 359187 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119221-27	D-26-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-28	D-27-W-230315	Total/NA	Water	NWTPH-Dx	358796
MB 410-358796/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	358796
LCS 410-358796/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	358796
LCSD 410-358796/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	358796
410-119221-4 DU	MW-14-W-230315	Total/NA	Water	NWTPH-Dx	358796
410-119221-6 DU	MW-22-W-230315	Total/NA	Water	NWTPH-Dx	358796

Lab Chronicle

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-10-W-230313
Lab Sample ID: 410-119221-1
Date Collected: 03/13/23 15:45
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357164	PV7W	ELLE	03/24/23 16:22
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/20/23 21:55
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 13:20

Client Sample ID: MW-11-W-230313
Lab Sample ID: 410-119221-2
Date Collected: 03/13/23 14:40
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357164	PV7W	ELLE	03/24/23 16:45
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/20/23 22:20
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 14:05

Client Sample ID: MW-12-W-230314
Lab Sample ID: 410-119221-3
Date Collected: 03/14/23 10:45
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357164	PV7W	ELLE	03/24/23 17:56
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/20/23 23:37
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 16:27

Client Sample ID: MW-14-W-230315
Lab Sample ID: 410-119221-4
Date Collected: 03/15/23 17:20
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 22:37
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 00:03
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 14:56

Client Sample ID: MW-21-W-230313
Lab Sample ID: 410-119221-5
Date Collected: 03/13/23 17:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357164	PV7W	ELLE	03/24/23 18:20
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 00:28
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 15:19

Client Sample ID: MW-22-W-230315
Lab Sample ID: 410-119221-6

Date Collected: 03/15/23 16:05
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 23:00
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 01:44
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 15:41

Client Sample ID: MW-23-W-230314
Lab Sample ID: 410-119221-7

Date Collected: 03/14/23 12:30
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357164	PV7W	ELLE	03/24/23 19:31
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 02:10
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 17:35

Client Sample ID: MW-24-W-230314
Lab Sample ID: 410-119221-8

Date Collected: 03/14/23 17:30
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357726	PV7W	ELLE	03/27/23 18:53
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 02:36
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 17:58

Client Sample ID: MW-26-W-230314
Lab Sample ID: 410-119221-9

Date Collected: 03/14/23 15:20
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357726	PV7W	ELLE	03/27/23 19:17
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 03:01
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 18:20

Client Sample ID: MW-30-W-230314
Lab Sample ID: 410-119221-10

Date Collected: 03/14/23 14:10
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 14:44
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 03:27
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		2	358157	UHEW	ELLE	03/29/23 13:44

Client Sample ID: MW-31-W-230315
Lab Sample ID: 410-119221-11

Date Collected: 03/15/23 09:40
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 23:24
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 04:43

Client Sample ID: MW-36-W-230315
Lab Sample ID: 410-119221-12

Date Collected: 03/15/23 13:50
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 23:48
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 05:09
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 16:26

Client Sample ID: MW-37-W-230315
Lab Sample ID: 410-119221-13

Date Collected: 03/15/23 13:10
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 00:11
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 05:35
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 16:49

Client Sample ID: MW-38-W-230315
Lab Sample ID: 410-119221-14

Date Collected: 03/15/23 12:40
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 00:35
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 06:00
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 17:11

Client Sample ID: MW-39-W-230316
Lab Sample ID: 410-119221-15

Date Collected: 03/16/23 09:40
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358643	UKAD	ELLE	03/29/23 16:14
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 06:25
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 17:34

Client Sample ID: RMW-01-W-230316
Lab Sample ID: 410-119221-16

Date Collected: 03/16/23 12:15
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358641	UKAD	ELLE	03/29/23 16:02
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 06:50
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 18:19

Client Sample ID: D-02A-W-230314
Lab Sample ID: 410-119221-17

Date Collected: 03/14/23 10:45
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 15:55
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 07:15
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 18:43

Client Sample ID: D-07-W-230315
Lab Sample ID: 410-119221-18

Date Collected: 03/15/23 16:20
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 01:03
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 07:41
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 18:42

Client Sample ID: D-08-W-230314
Lab Sample ID: 410-119221-19

Date Collected: 03/14/23 12:20
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 16:19
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 08:07
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 19:06

Client Sample ID: D-09-W-230315
Lab Sample ID: 410-119221-20

Date Collected: 03/15/23 10:05
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 01:26
Total/NA	Analysis	NWTPH-Gx		1	355407	B9BF	ELLE	03/21/23 08:33
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 19:05

Client Sample ID: D-12-W-230316
Lab Sample ID: 410-119221-21

Date Collected: 03/16/23 13:10
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358641	UKAD	ELLE	03/29/23 16:26
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 21:12
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 19:27

Client Sample ID: D-17-W-230314
Lab Sample ID: 410-119221-22

Date Collected: 03/14/23 14:20
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 16:43
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 21:39
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 19:28

Client Sample ID: D-18-W-230314
Lab Sample ID: 410-119221-23

Date Collected: 03/14/23 16:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 17:06
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 22:04
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 19:51

Client Sample ID: D-19-W-230314
Lab Sample ID: 410-119221-24

Date Collected: 03/14/23 17:35
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 17:30
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 22:29
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 20:14

Client Sample ID: D-24-W-230315
Lab Sample ID: 410-119221-25

Date Collected: 03/15/23 14:45
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 01:50
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 22:54
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 19:50

Lab Chronicle

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-25-W-230315
Lab Sample ID: 410-119221-26
Date Collected: 03/15/23 12:05
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/29/23 02:14
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 23:20
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 20:12

Client Sample ID: D-26-W-230315
Lab Sample ID: 410-119221-27
Date Collected: 03/15/23 11:45
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 21:49
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 23:46
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 20:35

Client Sample ID: D-27-W-230315
Lab Sample ID: 410-119221-28
Date Collected: 03/15/23 10:40
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358264	UKAD	ELLE	03/28/23 22:13
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/22/23 01:03
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 20:58

Client Sample ID: DUP-2-WD-230314
Lab Sample ID: 410-119221-29
Date Collected: 03/14/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	357728	PV7W	ELLE	03/27/23 17:54
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/22/23 01:28
Total/NA	Prep	3510C			357812	QJZ6	ELLE	03/27/23 14:34
Total/NA	Analysis	NWTPH-Dx		1	358157	UHEW	ELLE	03/28/23 20:36

Client Sample ID: TB-1-T-230316
Lab Sample ID: 410-119221-30
Date Collected: 03/16/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358641	UKAD	ELLE	03/29/23 14:27
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 19:56

Lab Chronicle

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-2-T-230316
Lab Sample ID: 410-119221-31
Date Collected: 03/16/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358641	UKAD	ELLE	03/29/23 14:51
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 20:22

Client Sample ID: TB-3-T-230316
Lab Sample ID: 410-119221-32
Date Collected: 03/16/23 00:00
Matrix: Water
Date Received: 03/17/23 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	358641	UKAD	ELLE	03/29/23 15:14
Total/NA	Analysis	NWTPH-Gx		1	355802	B9BF	ELLE	03/21/23 20:47

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-23

Method Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
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 Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-119221-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-119221-1	MW-10-W-230313	Water	03/13/23 15:45	03/17/23 10:24
410-119221-2	MW-11-W-230313	Water	03/13/23 14:40	03/17/23 10:24
410-119221-3	MW-12-W-230314	Water	03/14/23 10:45	03/17/23 10:24
410-119221-4	MW-14-W-230315	Water	03/15/23 17:20	03/17/23 10:24
410-119221-5	MW-21-W-230313	Water	03/13/23 17:00	03/17/23 10:24
410-119221-6	MW-22-W-230315	Water	03/15/23 16:05	03/17/23 10:24
410-119221-7	MW-23-W-230314	Water	03/14/23 12:30	03/17/23 10:24
410-119221-8	MW-24-W-230314	Water	03/14/23 17:30	03/17/23 10:24
410-119221-9	MW-26-W-230314	Water	03/14/23 15:20	03/17/23 10:24
410-119221-10	MW-30-W-230314	Water	03/14/23 14:10	03/17/23 10:24
410-119221-11	MW-31-W-230315	Water	03/15/23 09:40	03/17/23 10:24
410-119221-12	MW-36-W-230315	Water	03/15/23 13:50	03/17/23 10:24
410-119221-13	MW-37-W-230315	Water	03/15/23 13:10	03/17/23 10:24
410-119221-14	MW-38-W-230315	Water	03/15/23 12:40	03/17/23 10:24
410-119221-15	MW-39-W-230316	Water	03/16/23 09:40	03/17/23 10:24
410-119221-16	RMW-01-W-230316	Water	03/16/23 12:15	03/17/23 10:24
410-119221-17	D-02A-W-230314	Water	03/14/23 10:45	03/17/23 10:24
410-119221-18	D-07-W-230315	Water	03/15/23 16:20	03/17/23 10:24
410-119221-19	D-08-W-230314	Water	03/14/23 12:20	03/17/23 10:24
410-119221-20	D-09-W-230315	Water	03/15/23 10:05	03/17/23 10:24
410-119221-21	D-12-W-230316	Water	03/16/23 13:10	03/17/23 10:24
410-119221-22	D-17-W-230314	Water	03/14/23 14:20	03/17/23 10:24
410-119221-23	D-18-W-230314	Water	03/14/23 16:00	03/17/23 10:24
410-119221-24	D-19-W-230314	Water	03/14/23 17:35	03/17/23 10:24
410-119221-25	D-24-W-230315	Water	03/15/23 14:45	03/17/23 10:24
410-119221-26	D-25-W-230315	Water	03/15/23 12:05	03/17/23 10:24
410-119221-27	D-26-W-230315	Water	03/15/23 11:45	03/17/23 10:24
410-119221-28	D-27-W-230315	Water	03/15/23 10:40	03/17/23 10:24
410-119221-29	DUP-2-WD-230314	Water	03/14/23 00:00	03/17/23 10:24
410-119221-30	TB-1-T-230316	Water	03/16/23 00:00	03/17/23 10:24
410-119221-31	TB-2-T-230316	Water	03/16/23 00:00	03/17/23 10:24
410-119221-32	TB-3-T-230316	Water	03/16/23 00:00	03/17/23 10:24

410-119221 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Sampler: DB, LC	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:	
Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin: WA	Page: 1 of 3
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No			
Phone: 971 323 6262	PO #:			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (Sample ID-[YYYYMMDD]-W)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-10- 20230313-W	3/13/23	1545	G	W	N		X	X	X		
MW-11- 20230313-W	3/13/23	1440	G	W	N	X	X	X	X		
MW-12- 20230314-W	3/14/23	1045	G	W	N		X	X	X		
~~MW-13-~~				W	N		X	X	X		
MW-14- 20230315-W	3/15/23	1120	G	W	N		X	X	X		
~~MW-18-~~				W	N		X	X	X		
MW-19-				W	N		X	X	X		
~~MW-20-~~				W	N		X	X	X		
MW-21- 20230313-W	3/13/23	1700	G	W	N	X	X	X	X		
MW-22- 20230315-W	3/15/23	1605	G	W	N		X	X	X		
MW-23- 20230314-W	3/14/23	1230	G	W	N		X	X	X		
MW-24- 20230314-W	3/14/23	1730	G	W	N		X	X	X		
~~MW-25-~~			G	W	N		X	X	X		
MW-26- 20230314-W	3/14/23	1520	G	W	N		X	X	X		
~~MW-29-~~				W	N		X	X	X		
MW-30- 20230314-W	3/14/23	1410	G	W	N		X	X	X		
MW-31- 20230315-W	3/15/23	0940	G	W	N		X	X	X		Dx not collected
~~MW-32-~~				W	N		X	X	X		
~~MW-34-~~				W	N		X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3/16 1530	Company: AECOM	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3/17/23 1024	Company

Custody Seals Intact: X Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.8 / 2.0 / 1.2 / 1.1 / 0.9

Ver: 01/16/2019

DB

4/3/2023

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: DB, LL	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Client Contact: Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin: WA	Page: 2 of 3
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No			
Phone: 971 323 6262	PO #:			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (Sample ID-[YYYYMMDD]-W)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Biosolid, Drinking/wat, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-36- 20230315-W	3/15/23	1350	G	W	N		X	X	X		
MW-37- 20230315-W	3/15/23	1310	G	W	N		X	X	X		
MW-38- 20230315-W	3/15/23	1246	G	W	N		X	X	X		
MW-39- 20230316-W	3/16/23	0946	G	W	N		X	X	X		
RMW-01- 20230316-W	3/16/23	1215	G	W	N		X	X	X		
~~D-01-~~				W	N		X	X	X		
D-02A- 20230314-W	3/14/23	1045	G	W	N		X	X	X		
~~D-03A-~~				W	N		X	X	X		
~~D-06-~~				W	N		X	X	X		
D-07- 20230315-W	3/15/23	1620	G	W	N		X	X	X		
D-08- 20230314-W	3/14/23	1220	G	W	N		X	X	X		
D-09- 20230315-W	3/15/23	1005	G	W	N		X	X	X		
~~D-10-~~				W	N		X	X	X		
D-12- 20230316-W	3/16/23	1310	G	W	N		X	X	X		
~~D-13-~~				W	N		X	X	X		
~~D-14-~~				W	N		X	X	X		
~~D-15-~~				W	N		X	X	X		
D-17- 20230314-W	3/14/23	1420	G	W	N		X	X	X		
D-18- 20230314-W	3/14/23	1600	G	W	N		X	X	X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by	Date/Time	Company
	[signature]	3/16 1330	AECOM	[signature]		
	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time	Company	Received by: [signature]	3/17/23 1024	DMA

Custody Seals Intact: ☒ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.8/2.0/1.2/1.1/0.9

Ver: 01/16/2019

DB

MR

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: DB, LC	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Client Contact: Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin: WA	Page: 3 of 3
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: ☐ Yes ☐ No			
Phone: 971 323 6262	PO #:			Other:
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (Sample ID-[YYYYMMDD]-W)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wastewater, Sludge, Drinking Water, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
D-19 - 20230314-W	3/14/23	1735	G	W	N		X	X	X		
~~D-23~~				W	N		X	X	X		
D-24 - 20230315-W	3/15/23	1445	G	W	N		X	X	X		
D-25 - 20230315-W	3/15/23	1205	G	W	N		X	X	X		
D-26 - 20230315-W	3/15/23	1145	G	W	N		X	X	X		
D-27 - 20230316-W	3/16/23	1040	G	W	N		X	X	X		
~~DUP-1 - 20230314-W~~	3/14/23	0000		W	N		X	X	X		
DUP-2 - 20230314-W	3/14/23	0000	G	W	N		X	X	X		
TB-1 - 20230316-W	3/16/23	—	—	W	N		X		X		
TB-2 - 20230316-W	3/16/23	—	—	W	N		X		X		
TB-3 - 20230316-W	3/16/23	—	—	W	N		X		X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 3/16 1530	Company: AECOM	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3/17/23 1024	Company

Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.8/2.0/1.2/1.1/0.9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-119221-1

Login Number: 119221

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Bryan, Debra A

Question	Answer	Comment
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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.
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Christina Wheeler
AECOM
888 Southwest 5th Avenue
Suite 600
Portland, Oregon 97204

Generated 4/5/2023 11:38:03 PM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-119873-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
4/5/2023 11:38:03 PM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 9
Surrogate Summary 19
QC Sample Results 21
QC Association Summary 27
Lab Chronicle 30
Certification Summary 34
Method Summary 35
Sample Summary 36
Chain of Custody 37
Receipt Checklists 38

Definitions/Glossary

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
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.

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
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

Job ID: 410-119873-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-119873-1

Receipt
The samples were received on 3/23/2023 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8°C and 1.5°C

GC/MS VOA
Method 8260D_UST: The following samples were analyzed outside of analytical holding time: D-15-W-230316 (410-119873-9) and MW-29-W-230316 (410-119873-14).

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: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-01-W-230321 — Lab Sample ID: 410-119873-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	190	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4600		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	720		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-03A-W-230317 — Lab Sample ID: 410-119873-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	74	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3000		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	730		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-06-W-230317 — Lab Sample ID: 410-119873-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	200	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	420		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-13-W-230321 — Lab Sample ID: 410-119873-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	160	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	790		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	170	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-10-W-230317 — Lab Sample ID: 410-119873-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	43	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	870		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	150	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-18-W-230317 — Lab Sample ID: 410-119873-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	360		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2100		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	530		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-19-W-230321 — Lab Sample ID: 410-119873-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.35	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Toluene	0.32	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1100		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	6500		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1600		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-14-W-230321 — Lab Sample ID: 410-119873-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	71	J	110	49	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-119873-1

Client Sample ID: D-15-W-230316 — Lab Sample ID: 410-119873-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	2000		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	500		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-22-W-230317 — Lab Sample ID: 410-119873-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	89	J	100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-1-WD-230321 — Lab Sample ID: 410-119873-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	180	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4800		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	730		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-4-T-230321 — Lab Sample ID: 410-119873-12

No Detections.

Client Sample ID: MW-25-W-230317 — Lab Sample ID: 410-119873-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.1		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Ethylbenzene	1.2		1.0	0.40	ug/L	1		8260D/UST	Total/NA
Toluene	0.33	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	720		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	87	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-29-W-230316 — Lab Sample ID: 410-119873-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	1100		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4800		110	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	930		260	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-32-W-230317 — Lab Sample ID: 410-119873-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Toluene	0.33	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1400		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1200		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	140	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-34-W-230317 — Lab Sample ID: 410-119873-16

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: D-01-W-230321
Lab Sample ID: 410-119873-1

Date Collected: 03/21/23 12:00
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			04/02/23 21:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 21:56	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 21:56	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 21:56	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*04/02/23 21:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*04/02/23 21:56*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*04/02/23 21:56*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/02/23 21:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	190	J	250	43	ug/L			03/24/23 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/24/23 22:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4600		100	46	ug/L		04/04/23 08:01	04/05/23 00:20	1
C24-C40	720		250	100	ug/L		04/04/23 08:01	04/05/23 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*04/04/23 08:01*	*04/05/23 00:20*	*1*

Client Sample ID: D-03A-W-230317
Lab Sample ID: 410-119873-2

Date Collected: 03/17/23 16:40
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 17:11	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 17:11	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 17:11	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 17:11	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/30/23 17:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/30/23 17:11*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/30/23 17:11*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 17:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	74	J	250	43	ug/L			03/24/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/24/23 22:42*	*1*

Client Sample ID: D-03A-W-230317
Lab Sample ID: 410-119873-2

Date Collected: 03/17/23 16:40
Matrix: Water
Date Received: 03/23/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	3000		100	47	ug/L		03/31/23 08:08	03/31/23 22:15	1
C24-C40	730		260	100	ug/L		03/31/23 08:08	03/31/23 22:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*03/31/23 08:08*	*03/31/23 22:15*	*1*

Client Sample ID: D-06-W-230317
Lab Sample ID: 410-119873-3

Date Collected: 03/17/23 15:00
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 17:35	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 17:35	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 17:35	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 17:35	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*03/30/23 17:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/30/23 17:35*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/30/23 17:35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 17:35*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	200	J	250	43	ug/L			03/24/23 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*03/24/23 23:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	3300		100	46	ug/L		03/31/23 08:08	03/31/23 22:38	1
C24-C40	420		260	100	ug/L		03/31/23 08:08	03/31/23 22:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*03/31/23 08:08*	*03/31/23 22:38*	*1*

Client Sample ID: MW-13-W-230321
Lab Sample ID: 410-119873-4

Date Collected: 03/21/23 10:40
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			04/02/23 22:19	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 22:19	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 22:19	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 22:19	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 22:19	1

Client Sample ID: MW-13-W-230321
Lab Sample ID: 410-119873-4

Date Collected: 03/21/23 10:40
Matrix: Water
Date Received: 03/23/23 09:55

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*04/02/23 22:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*04/02/23 22:19*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*04/02/23 22:19*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/02/23 22:19*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	160	J	250	43	ug/L			03/24/23 23:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/24/23 23:33*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	790		100	46	ug/L		04/04/23 08:01	04/05/23 00:42	1
C24-C40	170	J	250	100	ug/L		04/04/23 08:01	04/05/23 00:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*90*		*50 - 150*	*04/04/23 08:01*	*04/05/23 00:42*	*1*

Client Sample ID: D-10-W-230317
Lab Sample ID: 410-119873-5

Date Collected: 03/17/23 13:25
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 17:59	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 17:59	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 17:59	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 17:59	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/30/23 17:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/30/23 17:59*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/30/23 17:59*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 17:59*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	43	J	250	43	ug/L			03/24/23 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*03/24/23 23:58*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	870		100	46	ug/L		03/31/23 08:08	03/31/23 23:00	1
C24-C40	150	J	260	100	ug/L		03/31/23 08:08	03/31/23 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*81*		*50 - 150*	*03/31/23 08:08*	*03/31/23 23:00*	*1*

Client Sample ID: MW-18-W-230317
Lab Sample ID: 410-119873-6

Date Collected: 03/17/23 16:20
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 18:22	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 18:22	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 18:22	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 18:22	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/30/23 18:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*03/30/23 18:22*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/30/23 18:22*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 18:22*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	360		250	43	ug/L			03/25/23 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/25/23 00:23*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	2100		100	46	ug/L		03/31/23 08:08	03/31/23 23:23	1
C24-C40	530		260	100	ug/L		03/31/23 08:08	03/31/23 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*03/31/23 08:08*	*03/31/23 23:23*	*1*

Client Sample ID: MW-19-W-230321
Lab Sample ID: 410-119873-7

Date Collected: 03/21/23 11:28
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.35	J	1.0	0.30	ug/L			04/02/23 21:27	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 21:27	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 21:27	1
Toluene	0.32	J	1.0	0.30	ug/L			04/02/23 21:27	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*04/02/23 21:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*04/02/23 21:27*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*04/02/23 21:27*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/02/23 21:27*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1100		250	43	ug/L			03/25/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/25/23 00:49*	*1*

Client Sample ID: MW-19-W-230321
Lab Sample ID: 410-119873-7

Date Collected: 03/21/23 11:28
Matrix: Water
Date Received: 03/23/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	6500		110	49	ug/L		04/04/23 08:01	04/05/23 02:36	1
C24-C40	1600		270	110	ug/L		04/04/23 08:01	04/05/23 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*04/04/23 08:01*	*04/05/23 02:36*	*1*

Client Sample ID: D-14-W-230321
Lab Sample ID: 410-119873-8

Date Collected: 03/21/23 09:59
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			04/02/23 21:51	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 21:51	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 21:51	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 21:51	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*04/02/23 21:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*04/02/23 21:51*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*04/02/23 21:51*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/02/23 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)	ND		250	43	ug/L			03/25/23 01:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/25/23 01:14*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	71	J	110	49	ug/L		04/04/23 08:01	04/05/23 01:28	1
C24-C40	ND		270	110	ug/L		04/04/23 08:01	04/05/23 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*04/04/23 08:01*	*04/05/23 01:28*	*1*

Client Sample ID: D-15-W-230316
Lab Sample ID: 410-119873-9

Date Collected: 03/16/23 16:00
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	H cn	1.0	0.30	ug/L			04/02/23 13:48	1
Ethylbenzene	ND	H cn	1.0	0.40	ug/L			04/02/23 13:48	1
Methyl tertiary butyl ether	ND	H cn	1.0	0.20	ug/L			04/02/23 13:48	1
Toluene	ND	H cn	1.0	0.30	ug/L			04/02/23 13:48	1
Xylenes, Total	ND	H cn	6.0	1.4	ug/L			04/02/23 13:48	1

Client Sample ID: D-15-W-230316
Lab Sample ID: 410-119873-9

Date Collected: 03/16/23 16:00
Matrix: Water
Date Received: 03/23/23 09:55

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*96*	*cn*	*80 - 120*		*04/02/23 13:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*	*cn*	*80 - 120*		*04/02/23 13:48*	*1*
4-Bromofluorobenzene (Surr)	*94*	*cn*	*80 - 120*		*04/02/23 13:48*	*1*
Toluene-d8 (Surr)	*98*	*cn*	*80 - 120*		*04/02/23 13:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/25/23 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/25/23 01:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2000**		100	47	ug/L		03/29/23 16:08	03/30/23 21:20	1
C24-C40	**500**		260	100	ug/L		03/29/23 16:08	03/30/23 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*73*		*50 - 150*	*03/29/23 16:08*	*03/30/23 21:20*	*1*

Client Sample ID: D-22-W-230317
Lab Sample ID: 410-119873-10

Date Collected: 03/17/23 13:15
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 18:46	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 18:46	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 18:46	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 18:46	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/30/23 18:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/30/23 18:46*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/30/23 18:46*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 18:46*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/25/23 02:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*03/25/23 02:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**89**	**J**	100	47	ug/L		03/31/23 08:08	03/31/23 23:46	1
C24-C40	ND		260	100	ug/L		03/31/23 08:08	03/31/23 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*88*		*50 - 150*	*03/31/23 08:08*	*03/31/23 23:46*	*1*

Client Sample ID: DUP-1-WD-230321
Lab Sample ID: 410-119873-11

Date Collected: 03/21/23 00:00
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			04/02/23 22:15	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 22:15	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 22:15	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 22:15	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 22:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*04/02/23 22:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*04/02/23 22:15*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*04/02/23 22:15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/02/23 22:15*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**180**	**J**	250	43	ug/L			03/25/23 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*		*03/25/23 03:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**4800**		100	46	ug/L		04/04/23 08:01	04/05/23 01:50	1
C24-C40	**730**		260	100	ug/L		04/04/23 08:01	04/05/23 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*04/04/23 08:01*	*04/05/23 01:50*	*1*

Client Sample ID: TB-4-T-230321
Lab Sample ID: 410-119873-12

Date Collected: 03/21/23 00:00
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			04/02/23 15:03	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 15:03	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 15:03	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 15:03	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*04/02/23 15:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*		*04/02/23 15:03*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*04/02/23 15:03*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/02/23 15:03*	*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	43	ug/L			03/24/23 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*03/24/23 21:51*	*1*

Client Sample ID: MW-25-W-230317
Lab Sample ID: 410-119873-13

Date Collected: 03/17/23 11:40
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.1**		1.0	0.30	ug/L			03/30/23 19:10	1
Ethylbenzene	**1.2**		1.0	0.40	ug/L			03/30/23 19:10	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 19:10	1
Toluene	**0.33**	**J**	1.0	0.30	ug/L			03/30/23 19:10	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*03/30/23 19:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*03/30/23 19:10*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/30/23 19:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 19:10*	*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	43	ug/L			03/25/23 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/25/23 04:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**87**	**J**	100	46	ug/L		03/31/23 08:08	04/01/23 00:08	1
C24-C40	ND		260	100	ug/L		03/31/23 08:08	04/01/23 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*87*		*50 - 150*	*03/31/23 08:08*	*04/01/23 00:08*	*1*

Client Sample ID: MW-29-W-230316
Lab Sample ID: 410-119873-14

Date Collected: 03/16/23 14:30
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	H cn	1.0	0.30	ug/L			04/02/23 14:12	1
Ethylbenzene	ND	H cn	1.0	0.40	ug/L			04/02/23 14:12	1
Methyl tertiary butyl ether	ND	H cn	1.0	0.20	ug/L			04/02/23 14:12	1
Toluene	ND	H cn	1.0	0.30	ug/L			04/02/23 14:12	1
Xylenes, Total	ND	H cn	6.0	1.4	ug/L			04/02/23 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*	*cn*	*80 - 120*		*04/02/23 14:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*	*cn*	*80 - 120*		*04/02/23 14:12*	*1*
4-Bromofluorobenzene (Surr)	*93*	*cn*	*80 - 120*		*04/02/23 14:12*	*1*
Toluene-d8 (Surr)	*100*	*cn*	*80 - 120*		*04/02/23 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)	**1100**		250	43	ug/L			03/25/23 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/25/23 04:37*	*1*

Client Sample ID: MW-29-W-230316
Lab Sample ID: 410-119873-14
Date Collected: 03/16/23 14:30
Matrix: Water
Date Received: 03/23/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4800		110	47	ug/L		03/29/23 16:08	03/30/23 21:43	1
C24-C40	930		260	110	ug/L		03/29/23 16:08	03/30/23 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*03/29/23 16:08*	*03/30/23 21:43*	*1*

Client Sample ID: MW-32-W-230317
Lab Sample ID: 410-119873-15
Date Collected: 03/17/23 15:30
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.4		1.0	0.30	ug/L			03/30/23 19:33	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 19:33	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 19:33	1
Toluene	0.33	J	1.0	0.30	ug/L			03/30/23 19:33	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*03/30/23 19:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*03/30/23 19:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*03/30/23 19:33*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/30/23 19:33*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1400		250	43	ug/L			03/25/23 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*03/25/23 05:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1200		100	46	ug/L		03/31/23 08:08	04/01/23 00:31	1
C24-C40	140	J	260	100	ug/L		03/31/23 08:08	04/01/23 00:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*03/31/23 08:08*	*04/01/23 00:31*	*1*

Client Sample ID: MW-34-W-230317
Lab Sample ID: 410-119873-16
Date Collected: 03/17/23 12:05
Matrix: Water
Date Received: 03/23/23 09:55

Method: SW846 8260D/UST - 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			03/30/23 19:57	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 19:57	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 19:57	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 19:57	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 19:57	1

Client Sample ID: MW-34-W-230317
Lab Sample ID: 410-119873-16
Date Collected: 03/17/23 12:05
Matrix: Water
Date Received: 03/23/23 09:55

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*03/30/23 19:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*03/30/23 19:57*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/30/23 19:57*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/30/23 19:57*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			03/25/23 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*03/25/23 03:21*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		03/31/23 08:08	04/01/23 00:54	1
C24-C40	ND		260	100	ug/L		03/31/23 08:08	04/01/23 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*03/31/23 08:08*	*04/01/23 00:54*	*1*

Surrogate Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-119873-1

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DBFM	DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-119873-1	D-01-W-230321	95	98	96	101
410-119873-2	D-03A-W-230317	95	98	92	99
410-119873-3	D-06-W-230317	94	98	93	99
410-119873-4	MW-13-W-230321	95	98	94	100
410-119873-5	D-10-W-230317	95	98	93	99
410-119873-6	MW-18-W-230317	95	99	94	99
410-119873-7	MW-19-W-230321	97	95	101	99
410-119873-8	D-14-W-230321	98	95	96	98
410-119873-9	D-15-W-230316	96 cn	98 cn	94 cn	98 cn
410-119873-10	D-22-W-230317	95	98	93	99
410-119873-11	DUP-1-WD-230321	95	95	99	99
410-119873-12	TB-4-T-230321	101	96	99	99
410-119873-13	MW-25-W-230317	93	97	93	99
410-119873-14	MW-29-W-230316	95 cn	97 cn	93 cn	100 cn
410-119873-15	MW-32-W-230317	95	97	92	99
410-119873-16	MW-34-W-230317	96	98	94	100
LCS 410-359130/4	Lab Control Sample	93	100	94	100
LCS 410-359959/4	Lab Control Sample	96	100	96	100
LCS 410-359961/4	Lab Control Sample	96	102	94	100
LCS 410-359969/4	Lab Control Sample	103	99	101	101
LCSD 410-359130/5	Lab Control Sample Dup	94	101	93	99
MB 410-359130/6	Method Blank	93	97	93	100
MB 410-359959/5	Method Blank	95	98	93	99
MB 410-359961/5	Method Blank	98	100	92	100
MB 410-359969/5	Method Blank	101	95	99	99

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-119873-1	D-01-W-230321	93
410-119873-2	D-03A-W-230317	93
410-119873-3	D-06-W-230317	94
410-119873-4	MW-13-W-230321	93
410-119873-5	D-10-W-230317	97
410-119873-6	MW-18-W-230317	92
410-119873-7	MW-19-W-230321	95
410-119873-8	D-14-W-230321	95
410-119873-9	D-15-W-230316	95
410-119873-10	D-22-W-230317	93
410-119873-11	DUP-1-WD-230321	91
410-119873-12	TB-4-T-230321	96

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)								
410-119873-13	MW-25-W-230317	92								
410-119873-14	MW-29-W-230316	92								
410-119873-15	MW-32-W-230317	92								
410-119873-16	MW-34-W-230317	94								
LCS 410-357255/6	Lab Control Sample	86								
LCSD 410-357255/7	Lab Control Sample Dup	86								
MB 410-357255/5	Method Blank	95								

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	OTP (50-150)								
410-119873-1	D-01-W-230321	79								
410-119873-2	D-03A-W-230317	75								
410-119873-3	D-06-W-230317	82								
410-119873-4	MW-13-W-230321	90								
410-119873-4 DU	MW-13-W-230321	87								
410-119873-5	D-10-W-230317	81								
410-119873-6	MW-18-W-230317	77								
410-119873-7	MW-19-W-230321	82								
410-119873-8	D-14-W-230321	74								
410-119873-9	D-15-W-230316	73								
410-119873-10	D-22-W-230317	88								
410-119873-11	DUP-1-WD-230321	70								
410-119873-13	MW-25-W-230317	87								
410-119873-14	MW-29-W-230316	70								
410-119873-15	MW-32-W-230317	81								
410-119873-16	MW-34-W-230317	75								
410-119873-16 DU	MW-34-W-230317	75								
LCS 410-358796/2-A	Lab Control Sample	79								
LCS 410-359506/2-A	Lab Control Sample	93								
LCS 410-360523/2-A	Lab Control Sample	83								
LCSD 410-358796/3-A	Lab Control Sample Dup	64								
LCSD 410-359506/3-A	Lab Control Sample Dup	84								
LCSD 410-360523/3-A	Lab Control Sample Dup	82								
MB 410-358796/1-A	Method Blank	85								
MB 410-359506/1-A	Method Blank	82								
MB 410-360523/1-A	Method Blank	82								

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-359130/6
Matrix: Water
Analysis Batch: 359130

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			03/30/23 15:22	1
Ethylbenzene	ND		1.0	0.40	ug/L			03/30/23 15:22	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			03/30/23 15:22	1
Toluene	ND		1.0	0.30	ug/L			03/30/23 15:22	1
Xylenes, Total	ND		6.0	1.4	ug/L			03/30/23 15:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*03/30/23 15:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*03/30/23 15:22*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/30/23 15:22*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/30/23 15:22*	*1*

Lab Sample ID: LCS 410-359130/4
Matrix: Water
Analysis Batch: 359130

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	18.6		ug/L		93	80 - 120		
Ethylbenzene			20.0	19.1		ug/L		95	80 - 120		
Methyl tertiary butyl ether			20.0	17.0		ug/L		85	69 - 122		
Toluene			20.0	19.3		ug/L		96	80 - 120		
Xylenes, Total			60.0	57.7		ug/L		96	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 410-359130/5
Matrix: Water
Analysis Batch: 359130

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	18.3		ug/L		92	80 - 120	2	30
Ethylbenzene			20.0	18.8		ug/L		94	80 - 120	2	30
Methyl tertiary butyl ether			20.0	16.7		ug/L		83	69 - 122	2	30
Toluene			20.0	18.7		ug/L		93	80 - 120	3	30
Xylenes, Total			60.0	56.0		ug/L		93	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-359959/5
Matrix: Water
Analysis Batch: 359959

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			04/02/23 13:25	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 13:25	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 13:25	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 13:25	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 13:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*04/02/23 13:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*04/02/23 13:25*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*04/02/23 13:25*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/02/23 13:25*	*1*

Lab Sample ID: LCS 410-359959/4
Matrix: Water
Analysis Batch: 359959

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	17.2		ug/L		86	80 - 120
Ethylbenzene	20.0	17.8		ug/L		89	80 - 120
Methyl tertiary butyl ether	20.0	15.8		ug/L		79	69 - 122
Toluene	20.0	17.7		ug/L		88	80 - 120
Xylenes, Total	60.0	54.2		ug/L		90	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 410-359961/5
Matrix: Water
Analysis Batch: 359961

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			04/02/23 13:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 13:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 13:36	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 13:36	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 13:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*04/02/23 13:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*04/02/23 13:36*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*04/02/23 13:36*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/02/23 13:36*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-359961/4
Matrix: Water
Analysis Batch: 359961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	21.6		ug/L		108	80 - 120		
Ethylbenzene			20.0	22.6		ug/L		113	80 - 120		
Methyl tertiary butyl ether			20.0	19.6		ug/L		98	69 - 122		
Toluene			20.0	22.1		ug/L		111	80 - 120		
Xylenes, Total			60.0	67.8		ug/L		113	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 410-359969/5
Matrix: Water
Analysis Batch: 359969

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			04/02/23 14:15	1
Ethylbenzene	ND		1.0	0.40	ug/L			04/02/23 14:15	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			04/02/23 14:15	1
Toluene	ND		1.0	0.30	ug/L			04/02/23 14:15	1
Xylenes, Total	ND		6.0	1.4	ug/L			04/02/23 14:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*04/02/23 14:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*04/02/23 14:15*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*04/02/23 14:15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/02/23 14:15*	*1*

Lab Sample ID: LCS 410-359969/4
Matrix: Water
Analysis Batch: 359969

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	17.7		ug/L		88	80 - 120		
Ethylbenzene			20.0	18.3		ug/L		91	80 - 120		
Methyl tertiary butyl ether			20.0	18.4		ug/L		92	69 - 122		
Toluene			20.0	18.1		ug/L		91	80 - 120		
Xylenes, Total			60.0	54.9		ug/L		92	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-357255/5
Matrix: Water
Analysis Batch: 357255

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	43	ug/L			03/24/23 19:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*03/24/23 19:36*	*1*

Lab Sample ID: LCS 410-357255/6
Matrix: Water
Analysis Batch: 357255

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1040		ug/L		95	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*86*		*50 - 150*

Lab Sample ID: LCSD 410-357255/7
Matrix: Water
Analysis Batch: 357255

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1080		ug/L		98	64 - 131	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*86*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-358796/1-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		03/29/23 16:08	03/30/23 13:48	1
C24-C40	ND		250	100	ug/L		03/29/23 16:08	03/30/23 13:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*85*		*50 - 150*	*03/29/23 16:08*	*03/30/23 13:48*	*1*

Lab Sample ID: LCS 410-358796/2-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	245		ug/L		41	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*79*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-358796/3-A
Matrix: Water
Analysis Batch: 359187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	242		ug/L		40	14 - 115	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*64*		*50 - 150*

Lab Sample ID: MB 410-359506/1-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		03/31/23 08:08	03/31/23 21:07	1
C24-C40	ND		250	100	ug/L		03/31/23 08:08	03/31/23 21:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*03/31/23 08:08*	*03/31/23 21:07*	*1*

Lab Sample ID: LCS 410-359506/2-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359506

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	252		ug/L		42	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*93*		*50 - 150*

Lab Sample ID: LCSD 410-359506/3-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 359506

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	228		ug/L		38	14 - 115	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*84*		*50 - 150*

Lab Sample ID: 410-119873-16 DU
Matrix: Water
Analysis Batch: 359816

Client Sample ID: MW-34-W-230317
Prep Type: Total/NA
Prep Batch: 359506

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	ND			ND		ug/L				NC	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*75*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-360523/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360787
Prep Batch: 360523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		04/04/23 08:01	04/04/23 23:12	1
C24-C40	ND		250	100	ug/L		04/04/23 08:01	04/04/23 23:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*04/04/23 08:01*	*04/04/23 23:12*	*1*

Lab Sample ID: LCS 410-360523/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360787
Prep Batch: 360523

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	226		ug/L		37	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*83*		*50 - 150*

Lab Sample ID: LCSD 410-360523/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360787
Prep Batch: 360523

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	210		ug/L		35	14 - 115	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*82*		*50 - 150*

Lab Sample ID: 410-119873-4 DU
Client Sample ID: MW-13-W-230321
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 360787
Prep Batch: 360523

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	790			762		ug/L				4	20
C24-C40	170	J		173	J	ug/L				2	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*87*		*50 - 150*

GC/MS VOA

Analysis Batch: 359130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-2	D-03A-W-230317	Total/NA	Water	8260D/UST	
410-119873-3	D-06-W-230317	Total/NA	Water	8260D/UST	
410-119873-5	D-10-W-230317	Total/NA	Water	8260D/UST	
410-119873-6	MW-18-W-230317	Total/NA	Water	8260D/UST	
410-119873-10	D-22-W-230317	Total/NA	Water	8260D/UST	
410-119873-13	MW-25-W-230317	Total/NA	Water	8260D/UST	
410-119873-15	MW-32-W-230317	Total/NA	Water	8260D/UST	
410-119873-16	MW-34-W-230317	Total/NA	Water	8260D/UST	
MB 410-359130/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-359130/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-359130/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 359959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-9	D-15-W-230316	Total/NA	Water	8260D/UST	
410-119873-14	MW-29-W-230316	Total/NA	Water	8260D/UST	
MB 410-359959/5	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-359959/4	Lab Control Sample	Total/NA	Water	8260D/UST	

Analysis Batch: 359961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-1	D-01-W-230321	Total/NA	Water	8260D/UST	
410-119873-4	MW-13-W-230321	Total/NA	Water	8260D/UST	
MB 410-359961/5	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-359961/4	Lab Control Sample	Total/NA	Water	8260D/UST	

Analysis Batch: 359969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-7	MW-19-W-230321	Total/NA	Water	8260D/UST	
410-119873-8	D-14-W-230321	Total/NA	Water	8260D/UST	
410-119873-11	DUP-1-WD-230321	Total/NA	Water	8260D/UST	
410-119873-12	TB-4-T-230321	Total/NA	Water	8260D/UST	
MB 410-359969/5	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-359969/4	Lab Control Sample	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 357255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-1	D-01-W-230321	Total/NA	Water	NWTPH-Gx	
410-119873-2	D-03A-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-3	D-06-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-4	MW-13-W-230321	Total/NA	Water	NWTPH-Gx	
410-119873-5	D-10-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-6	MW-18-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-7	MW-19-W-230321	Total/NA	Water	NWTPH-Gx	
410-119873-8	D-14-W-230321	Total/NA	Water	NWTPH-Gx	
410-119873-9	D-15-W-230316	Total/NA	Water	NWTPH-Gx	
410-119873-10	D-22-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-11	DUP-1-WD-230321	Total/NA	Water	NWTPH-Gx	
410-119873-12	TB-4-T-230321	Total/NA	Water	NWTPH-Gx	

GC VOA (Continued)

Analysis Batch: 357255 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-13	MW-25-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-14	MW-29-W-230316	Total/NA	Water	NWTPH-Gx	
410-119873-15	MW-32-W-230317	Total/NA	Water	NWTPH-Gx	
410-119873-16	MW-34-W-230317	Total/NA	Water	NWTPH-Gx	
MB 410-357255/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-357255/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-357255/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 358796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-9	D-15-W-230316	Total/NA	Water	3510C	
410-119873-14	MW-29-W-230316	Total/NA	Water	3510C	
MB 410-358796/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-358796/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-358796/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 359187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-9	D-15-W-230316	Total/NA	Water	NWTPH-Dx	358796
410-119873-14	MW-29-W-230316	Total/NA	Water	NWTPH-Dx	358796
MB 410-358796/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	358796
LCS 410-358796/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	358796
LCSD 410-358796/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	358796

Prep Batch: 359506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-2	D-03A-W-230317	Total/NA	Water	3510C	
410-119873-3	D-06-W-230317	Total/NA	Water	3510C	
410-119873-5	D-10-W-230317	Total/NA	Water	3510C	
410-119873-6	MW-18-W-230317	Total/NA	Water	3510C	
410-119873-10	D-22-W-230317	Total/NA	Water	3510C	
410-119873-13	MW-25-W-230317	Total/NA	Water	3510C	
410-119873-15	MW-32-W-230317	Total/NA	Water	3510C	
410-119873-16	MW-34-W-230317	Total/NA	Water	3510C	
MB 410-359506/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-359506/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-359506/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-119873-16 DU	MW-34-W-230317	Total/NA	Water	3510C	

Analysis Batch: 359816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-2	D-03A-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-3	D-06-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-5	D-10-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-6	MW-18-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-10	D-22-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-13	MW-25-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-15	MW-32-W-230317	Total/NA	Water	NWTPH-Dx	359506
410-119873-16	MW-34-W-230317	Total/NA	Water	NWTPH-Dx	359506

GC Semi VOA (Continued)

Analysis Batch: 359816 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-359506/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	359506
LCS 410-359506/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	359506
LCSD 410-359506/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	359506
410-119873-16 DU	MW-34-W-230317	Total/NA	Water	NWTPH-Dx	359506

Prep Batch: 360523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-1	D-01-W-230321	Total/NA	Water	3510C	
410-119873-4	MW-13-W-230321	Total/NA	Water	3510C	
410-119873-7	MW-19-W-230321	Total/NA	Water	3510C	
410-119873-8	D-14-W-230321	Total/NA	Water	3510C	
410-119873-11	DUP-1-WD-230321	Total/NA	Water	3510C	
MB 410-360523/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-360523/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-360523/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-119873-4 DU	MW-13-W-230321	Total/NA	Water	3510C	

Analysis Batch: 360787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-119873-1	D-01-W-230321	Total/NA	Water	NWTPH-Dx	360523
410-119873-4	MW-13-W-230321	Total/NA	Water	NWTPH-Dx	360523
410-119873-7	MW-19-W-230321	Total/NA	Water	NWTPH-Dx	360523
410-119873-8	D-14-W-230321	Total/NA	Water	NWTPH-Dx	360523
410-119873-11	DUP-1-WD-230321	Total/NA	Water	NWTPH-Dx	360523
MB 410-360523/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	360523
LCS 410-360523/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	360523
LCSD 410-360523/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	360523
410-119873-4 DU	MW-13-W-230321	Total/NA	Water	NWTPH-Dx	360523

Lab Chronicle

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-01-W-230321
Lab Sample ID: 410-119873-1
Date Collected: 03/21/23 12:00
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359961	UKAD	ELLE	04/02/23 21:56
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 22:17
Total/NA	Prep	3510C			360523	YDF5	ELLE	04/04/23 08:01
Total/NA	Analysis	NWTPH-Dx		1	360787	UHEW	ELLE	04/05/23 00:20

Client Sample ID: D-03A-W-230317
Lab Sample ID: 410-119873-2
Date Collected: 03/17/23 16:40
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 17:11
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 22:42
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	03/31/23 22:15

Client Sample ID: D-06-W-230317
Lab Sample ID: 410-119873-3
Date Collected: 03/17/23 15:00
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 17:35
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 23:08
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	03/31/23 22:38

Client Sample ID: MW-13-W-230321
Lab Sample ID: 410-119873-4
Date Collected: 03/21/23 10:40
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359961	UKAD	ELLE	04/02/23 22:19
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 23:33
Total/NA	Prep	3510C			360523	YDF5	ELLE	04/04/23 08:01
Total/NA	Analysis	NWTPH-Dx		1	360787	UHEW	ELLE	04/05/23 00:42

Client Sample ID: D-10-W-230317
Lab Sample ID: 410-119873-5
Date Collected: 03/17/23 13:25
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 17:59
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 23:58
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	03/31/23 23:00

Lab Chronicle

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-18-W-230317
Lab Sample ID: 410-119873-6
Date Collected: 03/17/23 16:20
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 18:22
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 00:23
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	03/31/23 23:23

Client Sample ID: MW-19-W-230321
Lab Sample ID: 410-119873-7
Date Collected: 03/21/23 11:28
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359969	UKAD	ELLE	04/02/23 21:27
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 00:49
Total/NA	Prep	3510C			360523	YDF5	ELLE	04/04/23 08:01
Total/NA	Analysis	NWTPH-Dx		1	360787	UHEW	ELLE	04/05/23 02:36

Client Sample ID: D-14-W-230321
Lab Sample ID: 410-119873-8
Date Collected: 03/21/23 09:59
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359969	UKAD	ELLE	04/02/23 21:51
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 01:14
Total/NA	Prep	3510C			360523	YDF5	ELLE	04/04/23 08:01
Total/NA	Analysis	NWTPH-Dx		1	360787	UHEW	ELLE	04/05/23 01:28

Client Sample ID: D-15-W-230316
Lab Sample ID: 410-119873-9
Date Collected: 03/16/23 16:00
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359959	UKAD	ELLE	04/02/23 13:48
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 01:39
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 21:20

Client Sample ID: D-22-W-230317
Lab Sample ID: 410-119873-10
Date Collected: 03/17/23 13:15
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 18:46
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 02:55
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	03/31/23 23:46

Lab Chronicle

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: DUP-1-WD-230321
Lab Sample ID: 410-119873-11
Date Collected: 03/21/23 00:00
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359969	UKAD	ELLE	04/02/23 22:15
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 03:47
Total/NA	Prep	3510C			360523	YDF5	ELLE	04/04/23 08:01
Total/NA	Analysis	NWTPH-Dx		1	360787	UHEW	ELLE	04/05/23 01:50

Client Sample ID: TB-4-T-230321
Lab Sample ID: 410-119873-12
Date Collected: 03/21/23 00:00
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359969	UKAD	ELLE	04/02/23 15:03
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/24/23 21:51

Client Sample ID: MW-25-W-230317
Lab Sample ID: 410-119873-13
Date Collected: 03/17/23 11:40
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 19:10
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 04:12
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	04/01/23 00:08

Client Sample ID: MW-29-W-230316
Lab Sample ID: 410-119873-14
Date Collected: 03/16/23 14:30
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359959	UKAD	ELLE	04/02/23 14:12
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 04:37
Total/NA	Prep	3510C			358796	QJZ6	ELLE	03/29/23 16:08
Total/NA	Analysis	NWTPH-Dx		1	359187	UHEW	ELLE	03/30/23 21:43

Client Sample ID: MW-32-W-230317
Lab Sample ID: 410-119873-15
Date Collected: 03/17/23 15:30
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 19:33
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 05:03
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	04/01/23 00:31

Lab Chronicle

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-34-W-230317
Lab Sample ID: 410-119873-16
Date Collected: 03/17/23 12:05
Matrix: Water
Date Received: 03/23/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	359130	UKAD	ELLE	03/30/23 19:57
Total/NA	Analysis	NWTPH-Gx		1	357255	B9BF	ELLE	03/25/23 03:21
Total/NA	Prep	3510C			359506	YDF5	ELLE	03/31/23 08:08
Total/NA	Analysis	NWTPH-Dx		1	359816	KP5X	ELLE	04/01/23 00:54

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-23

Method Summary

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
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 Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-119873-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-119873-1	D-01-W-230321	Water	03/21/23 12:00	03/23/23 09:55
410-119873-2	D-03A-W-230317	Water	03/17/23 16:40	03/23/23 09:55
410-119873-3	D-06-W-230317	Water	03/17/23 15:00	03/23/23 09:55
410-119873-4	MW-13-W-230321	Water	03/21/23 10:40	03/23/23 09:55
410-119873-5	D-10-W-230317	Water	03/17/23 13:25	03/23/23 09:55
410-119873-6	MW-18-W-230317	Water	03/17/23 16:20	03/23/23 09:55
410-119873-7	MW-19-W-230321	Water	03/21/23 11:28	03/23/23 09:55
410-119873-8	D-14-W-230321	Water	03/21/23 09:59	03/23/23 09:55
410-119873-9	D-15-W-230316	Water	03/16/23 16:00	03/23/23 09:55
410-119873-10	D-22-W-230317	Water	03/17/23 13:15	03/23/23 09:55
410-119873-11	DUP-1-WD-230321	Water	03/21/23 00:00	03/23/23 09:55
410-119873-12	TB-4-T-230321	Water	03/21/23 00:00	03/23/23 09:55
410-119873-13	MW-25-W-230317	Water	03/17/23 11:40	03/23/23 09:55
410-119873-14	MW-29-W-230316	Water	03/16/23 14:30	03/23/23 09:55
410-119873-15	MW-32-W-230317	Water	03/17/23 15:30	03/23/23 09:55
410-119873-16	MW-34-W-230317	Water	03/17/23 12:05	03/23/23 09:55

410-119873 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing America

Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Sampler: NB, LC, SH Phone: 971 323 6281 360 608 3212	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com) E-Mail:	Carrier Tracking No(s):	COC No: Page: 1 of 4
Company: AECOM	PWSID:	State of Origin: WA		Job #:

Address: 888 SW 5th Ave	Due Date Requested:	
City: Portland	TAT Requested (days): 10 business days	
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No	
Phone: 971 323 6262	PO #:	
Email:	WO #:	
Project Name: CEMREC Legacy Sites - Tacoma	Project #:	
AECOM Project #: 60701804	SSOW#:	

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification Sample ID-[YYYYMMDD]-W	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=soil, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
[illegible] D-01-20230321-W	3/21/23	1200	G	W	N		X	X	X		
[illegible] D-03A-20230317-W	3/17/23	1640	G	W	N		X	X	X		
[illegible] D-06-20230317-W	3/17/23	1500	G	W	N		X	X	X		
MW-13- 20230321-W	3/21/23	1040	G	W	N		X	X	X		
[illegible] D-10-20230317-W	3/17/23	1325	G	W	N		X	X	X		
MW-18- 20230317-W	3/17/23	1620	G	W	N		X	X	X		
MW-19- 20230321-W	3/21/23	1129	G	W	N		X	X	X		
[illegible] D-14-20230321-W	3/21/23	0959	G	W	N		X	X	X		
[illegible] D-15-20230316-W	3/16/23	1600	G	W	N		X	X	X		
[illegible] D-22-20230317-W	3/17/23	1315	G	W	N		X	X	X		
[illegible] DUP-1-20230321-W	3/21/23	0000	G	W	N		X	X	X		
MW-24- TB-4-20230321-W	3/21/23	—	—	W	N		X	X	X		
MW-25- 20230317-W	3/17/23	1140	G	W	N		X	X	X		
[illegible]				W	N		X	X	X		
MW-29- 20230316-W	3/16/23	1430	G	W	N		X	X	X		
[illegible]				W	N		X	X	X		
[illegible]				W	N		X	X	X		
MW-32- 20230317-W	3/17/23	1530	G	W	N		X	X	X		
MW-34- 20230317-W	3/17/23	1205	G	W	N		X	X	X		

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☑ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by: David Perkins	Date/Time: 3/21/23 1330	Company: AECOM	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by: JM	Date/Time: 3/23/23 9:53	Company ECL ET	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: NA		Cooler Temperature(s) °C and Other Remarks: 0.8 - 1.5			

Ver: 01/16/2019

SR

4/5/2023

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-119873-1

Login Number: 119873
List Number: 1
Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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	
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Christina Wheeler
AECOM
888 Southwest 5th Avenue
Suite 600
Portland, Oregon 97204

Generated 6/9/2023 3:33:39 PM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-128093-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
6/9/2023 3:33:39 PM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 9
Surrogate Summary 18
QC Sample Results 20
QC Association Summary 23
Lab Chronicle 25
Certification Summary 28
Method Summary 29
Sample Summary 30
Chain of Custody 31
Receipt Checklists 32

Definitions/Glossary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail

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
cn	Refer to Case Narrative for further detail
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128093-1

Job ID: 410-128093-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-128093-1

Receipt
The samples were received on 5/25/2023 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8°C and 3.6°C

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-10-W-230522 (410-128093-2). The container labels list 14:20, while the COC lists 14:30. The COC was followed.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): D-18-W-230523 (410-128093-7). The container labels list 15:50, while the COC lists 15:55. The COC was followed.

GC/MS VOA
Method 8260D_UST: The continuing calibration verification (CCV) associated with batch 410-381952 recovered outside acceptance criteria, low biased, for Methyl tertiary butyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits(low): MW-30-W-230523 (410-128093-6). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: D-17-W-230523 (410-128093-12). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Since holding time expired prior to re-analysis, data from the first trial is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128093-1

Client Sample ID: MW-11-W-230522 — Lab Sample ID: 410-128093-1

No Detections.

Client Sample ID: MW-10-W-230522 — Lab Sample ID: 410-128093-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1500		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	540		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-02A-W-230523 — Lab Sample ID: 410-128093-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	43	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1400		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	520		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-23-W-230523 — Lab Sample ID: 410-128093-4

No Detections.

Client Sample ID: D-19-W-230523 — Lab Sample ID: 410-128093-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	610		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	180	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-30-W-230523 — Lab Sample ID: 410-128093-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	68	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4400	cn	120	53	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1200	cn	300	120	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-18-W-230523 — Lab Sample ID: 410-128093-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	650		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	200	J	270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-08-W-230523 — Lab Sample ID: 410-128093-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	920		110	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	230	J	260	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-12-W-230523 — Lab Sample ID: 410-128093-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	110	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	5300		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1400		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-09-W-230523 — Lab Sample ID: 410-128093-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1700		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	520		260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-26-W-230523 — Lab Sample ID: 410-128093-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1400		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	470		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-17-W-230523 — Lab Sample ID: 410-128093-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	81	J cn	110	48	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-12-W-230524 — Lab Sample ID: 410-128093-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	330		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	270		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RMW-01-W-230524 — Lab Sample ID: 410-128093-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	230	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1600		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	320		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-T-230524 — Lab Sample ID: 410-128093-15

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-11-W-230522

Lab Sample ID: 410-128093-1

Date Collected: 05/22/23 16:50

Matrix: Water

Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 17:09	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 17:09	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 17:09	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 17:09	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/01/23 17:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 17:09*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 17:09*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 17:09*	*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	43	ug/L			06/01/23 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/01/23 21:09*	*1*

Client Sample ID: MW-10-W-230522

Lab Sample ID: 410-128093-2

Date Collected: 05/22/23 14:30

Matrix: Water

Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 17:33	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 17:33	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 17:33	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 17:33	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 17:33*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 17:33*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 17:33*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/01/23 17:33*	*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	43	ug/L			06/01/23 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/01/23 21:35*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1500		110	49	ug/L		06/05/23 15:36	06/06/23 12:58	1
C24-C40	540		270	110	ug/L		06/05/23 15:36	06/06/23 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*06/05/23 15:36*	*06/06/23 12:58*	*1*

Client Sample ID: D-02A-W-230523
Lab Sample ID: 410-128093-3
Date Collected: 05/23/23 09:45
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 17:57	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 17:57	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 17:57	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 17:57	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/01/23 17:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 17:57*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 17:57*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/01/23 17:57*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**43**	**J**	250	43	ug/L			06/01/23 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*06/01/23 22:01*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1400**		100	46	ug/L		06/05/23 15:36	06/06/23 13:43	1
C24-C40	**520**		250	100	ug/L		06/05/23 15:36	06/06/23 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*06/05/23 15:36*	*06/06/23 13:43*	*1*

Client Sample ID: MW-23-W-230523
Lab Sample ID: 410-128093-4
Date Collected: 05/23/23 11:05
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 18:21	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 18:21	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 18:21	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 18:21	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/01/23 18:21*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 18:21*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 18:21*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 18:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/01/23 22:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/01/23 22:26*	*1*

Client Sample ID: MW-23-W-230523
Lab Sample ID: 410-128093-4
Date Collected: 05/23/23 11:05
Matrix: Water
Date Received: 05/25/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		06/05/23 15:36	06/06/23 14:29	1
C24-C40	ND		260	100	ug/L		06/05/23 15:36	06/06/23 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*56*		*50 - 150*	*06/05/23 15:36*	*06/06/23 14:29*	*1*

Client Sample ID: D-19-W-230523
Lab Sample ID: 410-128093-5
Date Collected: 05/23/23 12:50
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 18:45	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 18:45	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 18:45	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 18:45	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 18:45*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/01/23 18:45*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 18:45*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 18:45*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/01/23 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/01/23 23:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**610**		100	47	ug/L		06/05/23 15:36	06/06/23 14:52	1
C24-C40	**180**	**J**	260	100	ug/L		06/05/23 15:36	06/06/23 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*68*		*50 - 150*	*06/05/23 15:36*	*06/06/23 14:52*	*1*

Client Sample ID: MW-30-W-230523
Lab Sample ID: 410-128093-6
Date Collected: 05/23/23 14:45
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 19:09	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 19:09	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 19:09	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 19:09	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 19:09	1

Client Sample ID: MW-30-W-230523

Lab Sample ID: 410-128093-6
Date Collected: 05/23/23 14:45
Matrix: Water
Date Received: 05/25/23 09:55

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		80 - 120		06/01/23 19:09	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/01/23 19:09	1
Dibromofluoromethane (Surr)	103		80 - 120		06/01/23 19:09	1
Toluene-d8 (Surr)	97		80 - 120		06/01/23 19:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	68	J	250	43	ug/L			06/02/23 00:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	95		50 - 150		06/02/23 00:09	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4400	cn	120	53	ug/L		06/05/23 15:36	06/06/23 15:14	1
C24-C40	1200	cn	300	120	ug/L		06/05/23 15:36	06/06/23 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	44	S1- cn	50 - 150	06/05/23 15:36	06/06/23 15:14	1

Client Sample ID: D-18-W-230523

Lab Sample ID: 410-128093-7
Date Collected: 05/23/23 15:55
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 19:33	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 19:33	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 19:33	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 19:33	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		80 - 120		06/01/23 19:33	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/01/23 19:33	1
Dibromofluoromethane (Surr)	101		80 - 120		06/01/23 19:33	1
Toluene-d8 (Surr)	97		80 - 120		06/01/23 19:33	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	43	ug/L			06/02/23 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	97		50 - 150		06/02/23 00:34	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	650		110	48	ug/L		06/05/23 15:36	06/06/23 15:37	1
C24-C40	200	J	270	110	ug/L		06/05/23 15:36	06/06/23 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	54		50 - 150	06/05/23 15:36	06/06/23 15:37	1

Client Sample ID: D-08-W-230523

Lab Sample ID: 410-128093-8

Date Collected: 05/23/23 11:10

Matrix: Water

Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 19:57	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 19:57	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 19:57	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 19:57	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 19:57*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/01/23 19:57*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 19:57*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/01/23 19:57*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/02/23 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/02/23 01:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**920**		110	47	ug/L		06/05/23 15:36	06/06/23 16:00	1
C24-C40	**230**	**J**	260	110	ug/L		06/05/23 15:36	06/06/23 16:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*57*		*50 - 150*	*06/05/23 15:36*	*06/06/23 16:00*	*1*

Client Sample ID: MW-12-W-230523

Lab Sample ID: 410-128093-9

Date Collected: 05/23/23 09:50

Matrix: Water

Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 20:21	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 20:21	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 20:21	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 20:21	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 20:21*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/01/23 20:21*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/01/23 20:21*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/23 20:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**110**	**J**	250	43	ug/L			06/02/23 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/02/23 01:25*	*1*

Client Sample ID: MW-12-W-230523
Lab Sample ID: 410-128093-9
Date Collected: 05/23/23 09:50
Matrix: Water
Date Received: 05/25/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	5300		100	47	ug/L		06/05/23 15:36	06/06/23 16:22	1
C24-C40	1400		260	100	ug/L		06/05/23 15:36	06/06/23 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*59*		*50 - 150*	*06/05/23 15:36*	*06/06/23 16:22*	*1*

Client Sample ID: D-09-W-230523
Lab Sample ID: 410-128093-10
Date Collected: 05/23/23 14:10
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 20:45	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 20:45	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 20:45	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 20:45	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*06/01/23 20:45*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/23 20:45*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/01/23 20:45*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 20:45*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/02/23 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/02/23 01:51*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1700		100	47	ug/L		06/05/23 15:36	06/06/23 17:08	1
C24-C40	520		260	100	ug/L		06/05/23 15:36	06/06/23 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*57*		*50 - 150*	*06/05/23 15:36*	*06/06/23 17:08*	*1*

Client Sample ID: MW-26-W-230523
Lab Sample ID: 410-128093-11
Date Collected: 05/23/23 15:25
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 21:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 21:08	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 21:08	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 21:08	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 21:08	1

Client Sample ID: MW-26-W-230523
Lab Sample ID: 410-128093-11
Date Collected: 05/23/23 15:25
Matrix: Water
Date Received: 05/25/23 09:55

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 21:08*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/01/23 21:08*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/01/23 21:08*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/23 21:08*	*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	43	ug/L			06/02/23 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/02/23 02:16*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1400**		100	47	ug/L		06/05/23 15:36	06/06/23 17:30	1
C24-C40	**470**		260	100	ug/L		06/05/23 15:36	06/06/23 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*65*		*50 - 150*	*06/05/23 15:36*	*06/06/23 17:30*	*1*

Client Sample ID: D-17-W-230523
Lab Sample ID: 410-128093-12
Date Collected: 05/23/23 16:35
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 21:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 21:32	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 21:32	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 21:32	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/01/23 21:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 21:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/01/23 21:32*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 21:32*	*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	43	ug/L			06/02/23 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/02/23 02:42*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**81**	**J cn**	110	48	ug/L		06/05/23 15:36	06/06/23 17:53	1
C24-C40	ND	cn	270	110	ug/L		06/05/23 15:36	06/06/23 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*47*	*S1- cn*	*50 - 150*	*06/05/23 15:36*	*06/06/23 17:53*	*1*

Client Sample ID: D-12-W-230524
Lab Sample ID: 410-128093-13
Date Collected: 05/24/23 10:10
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 21:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 21:56	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 21:56	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 21:56	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 21:56*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 21:56*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/01/23 21:56*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 21:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/02/23 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/02/23 03:07*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**330**		110	49	ug/L		06/05/23 15:36	06/06/23 18:16	1
C24-C40	**270**		270	110	ug/L		06/05/23 15:36	06/06/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*06/05/23 15:36*	*06/06/23 18:16*	*1*

Client Sample ID: RMW-01-W-230524
Lab Sample ID: 410-128093-14
Date Collected: 05/24/23 11:15
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 22:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 22:20	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 22:20	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 22:20	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 22:20*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/01/23 22:20*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/01/23 22:20*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 22:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**230**	**J**	250	43	ug/L			06/02/23 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/02/23 03:33*	*1*

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: RMW-01-W-230524
Lab Sample ID: 410-128093-14
Date Collected: 05/24/23 11:15
Matrix: Water
Date Received: 05/25/23 09:55

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1600		110	49	ug/L		06/05/23 15:36	06/06/23 18:38	1
C24-C40	320		270	110	ug/L		06/05/23 15:36	06/06/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*52*		*50 - 150*	*06/05/23 15:36*	*06/06/23 18:38*	*1*

Client Sample ID: TB-T-230524
Lab Sample ID: 410-128093-15
Date Collected: 05/24/23 00:00
Matrix: Water
Date Received: 05/25/23 09:55

Method: SW846 8260D/UST - 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			06/01/23 16:21	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 16:21	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/01/23 16:21	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 16:21	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/01/23 16:21*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 16:21*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/01/23 16:21*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/23 16:21*	*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	43	ug/L			06/01/23 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/01/23 19:02*	*1*

Surrogate Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128093-1

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-128093-1	MW-11-W-230522	89	99	102	97
410-128093-2	MW-10-W-230522	88	99	102	98
410-128093-3	D-02A-W-230523	89	99	102	95
410-128093-4	MW-23-W-230523	89	99	102	97
410-128093-5	D-19-W-230523	88	98	102	97
410-128093-6	MW-30-W-230523	89	98	103	97
410-128093-7	D-18-W-230523	89	100	101	97
410-128093-8	D-08-W-230523	88	101	102	98
410-128093-9	MW-12-W-230523	88	97	100	96
410-128093-10	D-09-W-230523	86	100	102	97
410-128093-11	MW-26-W-230523	88	100	100	96
410-128093-12	D-17-W-230523	89	99	100	97
410-128093-13	D-12-W-230524	88	99	101	97
410-128093-14	RMW-01-W-230524	88	101	101	97
410-128093-15	TB-T-230524	88	99	101	96
LCS 410-381952/4	Lab Control Sample	91	99	102	97
LCSD 410-381952/5	Lab Control Sample Dup	91	100	102	98
MB 410-381952/6	Method Blank	87	99	100	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-128093-1	MW-11-W-230522	97
410-128093-2	MW-10-W-230522	98
410-128093-3	D-02A-W-230523	95
410-128093-4	MW-23-W-230523	94
410-128093-5	D-19-W-230523	96
410-128093-6	MW-30-W-230523	95
410-128093-7	D-18-W-230523	97
410-128093-8	D-08-W-230523	97
410-128093-9	MW-12-W-230523	94
410-128093-10	D-09-W-230523	97
410-128093-11	MW-26-W-230523	97
410-128093-12	D-17-W-230523	97
410-128093-13	D-12-W-230524	97
410-128093-14	RMW-01-W-230524	94
410-128093-15	TB-T-230524	98
LCS 410-381956/6	Lab Control Sample	89
LCSD 410-381956/7	Lab Control Sample Dup	89
MB 410-381956/5	Method Blank	96

Surrogate Legend

Surrogate Summary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTP (50-150)
410-128093-2	MW-10-W-230522	74
410-128093-2 DU	MW-10-W-230522	73
410-128093-3	D-02A-W-230523	70
410-128093-3 DU	D-02A-W-230523	70
410-128093-4	MW-23-W-230523	56
410-128093-5	D-19-W-230523	68
410-128093-6	MW-30-W-230523	44 S1- cn
410-128093-7	D-18-W-230523	54
410-128093-8	D-08-W-230523	57
410-128093-9	MW-12-W-230523	59
410-128093-10	D-09-W-230523	57
410-128093-11	MW-26-W-230523	65
410-128093-12	D-17-W-230523	47 S1- cn
410-128093-13	D-12-W-230524	75
410-128093-14	RMW-01-W-230524	52
LCS 410-383083/2-A	Lab Control Sample	83
LCSD 410-383083/3-A	Lab Control Sample Dup	88
MB 410-383083/1-A	Method Blank	83

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-381952/6
Matrix: Water
Analysis Batch: 381952

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			06/01/23 15:19	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/01/23 15:19	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/01/23 15:19	1
Toluene	ND		1.0	0.30	ug/L			06/01/23 15:19	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/01/23 15:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/01/23 15:19*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/01/23 15:19*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*06/01/23 15:19*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/23 15:19*	*1*

Lab Sample ID: LCS 410-381952/4
Matrix: Water
Analysis Batch: 381952

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	18.5		ug/L		93	80 - 120		
Ethylbenzene			20.0	17.7		ug/L		88	80 - 120		
Methyl tertiary butyl ether			20.0	15.9		ug/L		80	69 - 122		
Toluene			20.0	17.9		ug/L		90	80 - 120		
Xylenes, Total			60.0	54.2		ug/L		90	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 410-381952/5
Matrix: Water
Analysis Batch: 381952

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	19.3		ug/L		96	80 - 120	4	30
Ethylbenzene			20.0	18.8		ug/L		94	80 - 120	6	30
Methyl tertiary butyl ether			20.0	15.7		ug/L		79	69 - 122	1	30
Toluene			20.0	18.8		ug/L		94	80 - 120	4	30
Xylenes, Total			60.0	57.4		ug/L		96	80 - 120	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-381956/5
Matrix: Water
Analysis Batch: 381956

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	43	ug/L			06/01/23 15:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/01/23 15:57*	*1*

Lab Sample ID: LCS 410-381956/6
Matrix: Water
Analysis Batch: 381956

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)	*89*		*50 - 150*

Lab Sample ID: LCSD 410-381956/7
Matrix: Water
Analysis Batch: 381956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1010		ug/L		92	64 - 131	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-383083/1-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383083

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/05/23 15:36	06/06/23 11:50	1
C24-C40	ND		250	100	ug/L		06/05/23 15:36	06/06/23 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*06/05/23 15:36*	*06/06/23 11:50*	*1*

Lab Sample ID: LCS 410-383083/2-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383083

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	283		ug/L		47	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*83*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-383083/3-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383083

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	305		ug/L		50	14 - 115	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*88*		*50 - 150*

Lab Sample ID: 410-128093-2 DU
Matrix: Water
Analysis Batch: 383370

Client Sample ID: MW-10-W-230522
Prep Type: Total/NA
Prep Batch: 383083

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	1500			1450		ug/L				3	20
C24-C40	540			554		ug/L				2	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*73*		*50 - 150*

Lab Sample ID: 410-128093-3 DU
Matrix: Water
Analysis Batch: 383370

Client Sample ID: D-02A-W-230523
Prep Type: Total/NA
Prep Batch: 383083

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	1400			1390		ug/L				2	20
C24-C40	520			442		ug/L				16	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*70*		*50 - 150*

GC/MS VOA

Analysis Batch: 381952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128093-1	MW-11-W-230522	Total/NA	Water	8260D/UST	
410-128093-2	MW-10-W-230522	Total/NA	Water	8260D/UST	
410-128093-3	D-02A-W-230523	Total/NA	Water	8260D/UST	
410-128093-4	MW-23-W-230523	Total/NA	Water	8260D/UST	
410-128093-5	D-19-W-230523	Total/NA	Water	8260D/UST	
410-128093-6	MW-30-W-230523	Total/NA	Water	8260D/UST	
410-128093-7	D-18-W-230523	Total/NA	Water	8260D/UST	
410-128093-8	D-08-W-230523	Total/NA	Water	8260D/UST	
410-128093-9	MW-12-W-230523	Total/NA	Water	8260D/UST	
410-128093-10	D-09-W-230523	Total/NA	Water	8260D/UST	
410-128093-11	MW-26-W-230523	Total/NA	Water	8260D/UST	
410-128093-12	D-17-W-230523	Total/NA	Water	8260D/UST	
410-128093-13	D-12-W-230524	Total/NA	Water	8260D/UST	
410-128093-14	RMW-01-W-230524	Total/NA	Water	8260D/UST	
410-128093-15	TB-T-230524	Total/NA	Water	8260D/UST	
MB 410-381952/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-381952/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-381952/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 381956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128093-1	MW-11-W-230522	Total/NA	Water	NWTPH-Gx	
410-128093-2	MW-10-W-230522	Total/NA	Water	NWTPH-Gx	
410-128093-3	D-02A-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-4	MW-23-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-5	D-19-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-6	MW-30-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-7	D-18-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-8	D-08-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-9	MW-12-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-10	D-09-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-11	MW-26-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-12	D-17-W-230523	Total/NA	Water	NWTPH-Gx	
410-128093-13	D-12-W-230524	Total/NA	Water	NWTPH-Gx	
410-128093-14	RMW-01-W-230524	Total/NA	Water	NWTPH-Gx	
410-128093-15	TB-T-230524	Total/NA	Water	NWTPH-Gx	
MB 410-381956/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-381956/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-381956/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 383083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128093-2	MW-10-W-230522	Total/NA	Water	3510C	
410-128093-3	D-02A-W-230523	Total/NA	Water	3510C	
410-128093-4	MW-23-W-230523	Total/NA	Water	3510C	
410-128093-5	D-19-W-230523	Total/NA	Water	3510C	
410-128093-6	MW-30-W-230523	Total/NA	Water	3510C	
410-128093-7	D-18-W-230523	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 383083 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128093-8	D-08-W-230523	Total/NA	Water	3510C	
410-128093-9	MW-12-W-230523	Total/NA	Water	3510C	
410-128093-10	D-09-W-230523	Total/NA	Water	3510C	
410-128093-11	MW-26-W-230523	Total/NA	Water	3510C	
410-128093-12	D-17-W-230523	Total/NA	Water	3510C	
410-128093-13	D-12-W-230524	Total/NA	Water	3510C	
410-128093-14	RMW-01-W-230524	Total/NA	Water	3510C	
MB 410-383083/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-383083/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-383083/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-128093-2 DU	MW-10-W-230522	Total/NA	Water	3510C	
410-128093-3 DU	D-02A-W-230523	Total/NA	Water	3510C	

Analysis Batch: 383370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128093-2	MW-10-W-230522	Total/NA	Water	NWTPH-Dx	383083
410-128093-3	D-02A-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-4	MW-23-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-5	D-19-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-6	MW-30-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-7	D-18-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-8	D-08-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-9	MW-12-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-10	D-09-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-11	MW-26-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-12	D-17-W-230523	Total/NA	Water	NWTPH-Dx	383083
410-128093-13	D-12-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128093-14	RMW-01-W-230524	Total/NA	Water	NWTPH-Dx	383083
MB 410-383083/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	383083
LCS 410-383083/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	383083
LCSD 410-383083/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	383083
410-128093-2 DU	MW-10-W-230522	Total/NA	Water	NWTPH-Dx	383083
410-128093-3 DU	D-02A-W-230523	Total/NA	Water	NWTPH-Dx	383083

Lab Chronicle

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-11-W-230522
Lab Sample ID: 410-128093-1
Date Collected: 05/22/23 16:50
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 17:09
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 21:09

Client Sample ID: MW-10-W-230522
Lab Sample ID: 410-128093-2
Date Collected: 05/22/23 14:30
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 17:33
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 21:35
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 12:58

Client Sample ID: D-02A-W-230523
Lab Sample ID: 410-128093-3
Date Collected: 05/23/23 09:45
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 17:57
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 22:01
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 13:43

Client Sample ID: MW-23-W-230523
Lab Sample ID: 410-128093-4
Date Collected: 05/23/23 11:05
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 18:21
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 22:26
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 14:29

Client Sample ID: D-19-W-230523
Lab Sample ID: 410-128093-5
Date Collected: 05/23/23 12:50
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 18:45
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 23:43
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 14:52

Lab Chronicle

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-30-W-230523
Lab Sample ID: 410-128093-6
Date Collected: 05/23/23 14:45
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 19:09
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 00:09
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 15:14

Client Sample ID: D-18-W-230523
Lab Sample ID: 410-128093-7
Date Collected: 05/23/23 15:55
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 19:33
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 00:34
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 15:37

Client Sample ID: D-08-W-230523
Lab Sample ID: 410-128093-8
Date Collected: 05/23/23 11:10
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 19:57
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 01:00
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 16:00

Client Sample ID: MW-12-W-230523
Lab Sample ID: 410-128093-9
Date Collected: 05/23/23 09:50
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 20:21
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 01:25
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 16:22

Client Sample ID: D-09-W-230523
Lab Sample ID: 410-128093-10
Date Collected: 05/23/23 14:10
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 20:45
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 01:51
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 17:08

Lab Chronicle

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-26-W-230523
Lab Sample ID: 410-128093-11
Date Collected: 05/23/23 15:25
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 21:08
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 02:16
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 17:30

Client Sample ID: D-17-W-230523
Lab Sample ID: 410-128093-12
Date Collected: 05/23/23 16:35
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 21:32
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 02:42
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 17:53

Client Sample ID: D-12-W-230524
Lab Sample ID: 410-128093-13
Date Collected: 05/24/23 10:10
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 21:56
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 03:07
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 18:16

Client Sample ID: RMW-01-W-230524
Lab Sample ID: 410-128093-14
Date Collected: 05/24/23 11:15
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 22:20
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/02/23 03:33
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 18:38

Client Sample ID: TB-T-230524
Lab Sample ID: 410-128093-15
Date Collected: 05/24/23 00:00
Matrix: Water
Date Received: 05/25/23 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	381952	PV7W	ELLE	06/01/23 16:21
Total/NA	Analysis	NWTPH-Gx		1	381956	MXX6	ELLE	06/01/23 19:02

Laboratory References:
ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
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 Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-128093-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-128093-1	MW-11-W-230522	Water	05/22/23 16:50	05/25/23 09:55
410-128093-2	MW-10-W-230522	Water	05/22/23 14:30	05/25/23 09:55
410-128093-3	D-02A-W-230523	Water	05/23/23 09:45	05/25/23 09:55
410-128093-4	MW-23-W-230523	Water	05/23/23 11:05	05/25/23 09:55
410-128093-5	D-19-W-230523	Water	05/23/23 12:50	05/25/23 09:55
410-128093-6	MW-30-W-230523	Water	05/23/23 14:45	05/25/23 09:55
410-128093-7	D-18-W-230523	Water	05/23/23 15:55	05/25/23 09:55
410-128093-8	D-08-W-230523	Water	05/23/23 11:10	05/25/23 09:55
410-128093-9	MW-12-W-230523	Water	05/23/23 09:50	05/25/23 09:55
410-128093-10	D-09-W-230523	Water	05/23/23 14:10	05/25/23 09:55
410-128093-11	MW-26-W-230523	Water	05/23/23 15:25	05/25/23 09:55
410-128093-12	D-17-W-230523	Water	05/23/23 16:35	05/25/23 09:55
410-128093-13	D-12-W-230524	Water	05/24/23 10:10	05/25/23 09:55
410-128093-14	RMW-01-W-230524	Water	05/24/23 11:15	05/25/23 09:55
410-128093-15	TB-T-230524	Water	05/24/23 00:00	05/25/23 09:55

410-128093 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Sampler: Lillian Celovsky	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:	
Client Contact: Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin:	Page: 1 of
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: \ Yes \ No			
Phone: 971 323 6262	PO #: 152363			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wwater, Sbsolid, Ooil/solid, BT=Tissue, Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
~~MW-11-W-230522~~	5/22/23	1630		W	N		X	X	X		
MW-11-W-230522	5/22/23	1650		W	N	N	X		X	5	3BTEX, 2Gx, 0Dx
MW-10-W-230522	5/22/23	1430		W	N	N	X	X	X	8	
D-02A-W-230523	5/23/23	0945		W	N	N	X	X	X	8	
MW-23-W-230523	5/23/23	1105		W	N	N	X	X	X	8	
D-19-W-230523	5/23/23	1250		W	N	N	X	X	X	8	
MW-30-W-230523	5/23/23	1445		W	N	N	X	X	X	8	
D-18-W-230523	5/23/23	1555		W	N	N	X	X	X	8	
D-08-W-230523	5/23/23	1110		W	N	N	X	X	X	8	
MW-12-W-230523	5/23/23	0950		W	N	N	X	X	X	8	
D-09-W-230523	5/23/23	1410		W	N	N	X	X	X	8	
MW-26-W-230523	5/23/23	1525		W	N	N	X	X	X	8	
D-17-W-230523	5/23/23	1635		W	N	N	X	X	X	8	
D-12-W-230524	5/24/23	1010		W	N	N	X	X	X	8	
RMW-01-W-230524	5/24/23	1115		W	N	N	X	X	X	8	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by: Lillian Celovsky	Date/Time: 5/24/23 1230	Company: AECOM	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 5/25/23 0955	Company:	

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: RCW: 3.6, 0.8 COR: 3.6, 0.8

Ver: 01/16/2019

6/9/2023

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-128093-1

Login Number: 128093
List Number: 1
Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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.
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Christina Wheeler
AECOM
888 Southwest 5th Avenue
Suite 600
Portland, Oregon 97204

Generated 6/12/2023 8:20:07 AM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-128795-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

myEOL

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
6/12/2023 8:20:07 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 9
Surrogate Summary 16
QC Sample Results 18
QC Association Summary 21
Lab Chronicle 23
Certification Summary 26
Method Summary 27
Sample Summary 28
Chain of Custody 29
Receipt Checklists 31

Definitions/Glossary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
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
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: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128795-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-128795-1

Receipt
The samples were received on 6/1/2023 10:08 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 1.3°C

GC/MS VOA
Method 8260D_UST: The continuing calibration verification (CCV) associated with batch 410-383928 recovered outside acceptance criteria, low biased, for Methyl tertiary butyl ether. A reporting limit (RL) standard was analyzed and non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260D_UST: The following analyte(s) recovered outside control limits for the LCSD associated with 410-383928: Methyl tertiary butyl ether. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method NWTPH_Gx: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-32-W-230526 (410-128795-9). The sample(s) were analyzed within 7 days per EPA recommendation.

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: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128795-1

Client Sample ID: D-14-W-230526 — Lab Sample ID: 410-128795-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	45	J	250	43	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: MW-21-W-230526 — Lab Sample ID: 410-128795-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	390		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	340		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-14-W-230526 — Lab Sample ID: 410-128795-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	140		100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-03A-W-230526 — Lab Sample ID: 410-128795-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1900		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	460		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-19-230526 — Lab Sample ID: 410-128795-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.39	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Toluene	0.32	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Xylenes, Total	1.4	J	6.0	0.40	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1300		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	7100		110	49	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1200		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-07-W-230526 — Lab Sample ID: 410-128795-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	290		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	100	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-22-W-230526 — Lab Sample ID: 410-128795-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	190	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1800		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	900		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-2-WD-230526 — Lab Sample ID: 410-128795-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	200	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1900		110	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1000		260	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-32-W-230526 — Lab Sample ID: 410-128795-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.69	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1000	cn	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	660		110	47	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-5-T-230530 **Lab Sample ID: 410-128795-10**

No Detections.

Client Sample ID: TB-6-T-230530 **Lab Sample ID: 410-128795-11**

No Detections.

Client Sample ID: TB-7-T-230530 **Lab Sample ID: 410-128795-12**

No Detections.

Client Sample ID: TB-8-T-230530 **Lab Sample ID: 410-128795-13**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: D-14-W-230526
Lab Sample ID: 410-128795-1

Date Collected: 05/26/23 09:13
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 18:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 18:48	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 18:48	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 18:48	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/07/23 18:48*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/07/23 18:48*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/07/23 18:48*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/07/23 18:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**45**	**J**	250	43	ug/L			06/07/23 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/07/23 22:23*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	48	ug/L		06/07/23 07:50	06/08/23 02:26	1
C24-C40	ND		270	110	ug/L		06/07/23 07:50	06/08/23 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*06/07/23 07:50*	*06/08/23 02:26*	*1*

Client Sample ID: MW-21-W-230526
Lab Sample ID: 410-128795-2

Date Collected: 05/26/23 11:25
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 19:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 19:12	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 19:12	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 19:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/07/23 19:12*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/07/23 19:12*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/07/23 19:12*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/07/23 19:12*	*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	43	ug/L			06/07/23 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/07/23 22:48*	*1*

Client Sample ID: MW-21-W-230526
Lab Sample ID: 410-128795-2

Date Collected: 05/26/23 11:25
Matrix: Water
Date Received: 06/01/23 10:08

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	390		100	46	ug/L		06/07/23 07:50	06/08/23 02:49	1
C24-C40	340		260	100	ug/L		06/07/23 07:50	06/08/23 02:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*06/07/23 07:50*	*06/08/23 02:49*	*1*

Client Sample ID: MW-14-W-230526
Lab Sample ID: 410-128795-3

Date Collected: 05/26/23 11:27
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 19:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 19:36	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 19:36	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 19:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*06/07/23 19:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/07/23 19:36*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/07/23 19:36*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/07/23 19:36*	*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	43	ug/L			06/07/23 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/07/23 23:14*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	140		100	47	ug/L		06/07/23 07:50	06/08/23 03:11	1
C24-C40	ND		260	100	ug/L		06/07/23 07:50	06/08/23 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*06/07/23 07:50*	*06/08/23 03:11*	*1*

Client Sample ID: D-03A-W-230526
Lab Sample ID: 410-128795-4

Date Collected: 05/26/23 12:34
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 20:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 20:00	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 20:00	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 20:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 20:00	1

Client Sample ID: D-03A-W-230526
Lab Sample ID: 410-128795-4

Date Collected: 05/26/23 12:34
Matrix: Water
Date Received: 06/01/23 10:08

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/07/23 20:00*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/07/23 20:00*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/07/23 20:00*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/07/23 20:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/07/23 23:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/07/23 23:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1900**		100	47	ug/L		06/07/23 07:50	06/08/23 03:34	1
C24-C40	**460**		260	100	ug/L		06/07/23 07:50	06/08/23 03:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*76*		*50 - 150*	*06/07/23 07:50*	*06/08/23 03:34*	*1*

Client Sample ID: MW-19-230526
Lab Sample ID: 410-128795-5

Date Collected: 05/26/23 10:28
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.39**	**J**	1.0	0.30	ug/L			06/07/23 20:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 20:24	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 20:24	1
Toluene	**0.32**	**J**	1.0	0.30	ug/L			06/07/23 20:24	1
Xylenes, Total	**1.4**	**J**	6.0	0.40	ug/L			06/07/23 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*06/07/23 20:24*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*06/07/23 20:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*06/07/23 20:24*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/07/23 20:24*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**1300**		250	43	ug/L			06/08/23 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*06/08/23 00:05*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**7100**		110	49	ug/L		06/07/23 07:50	06/08/23 03:57	1
C24-C40	**1200**		270	110	ug/L		06/07/23 07:50	06/08/23 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*62*		*50 - 150*	*06/07/23 07:50*	*06/08/23 03:57*	*1*

Client Sample ID: D-07-W-230526
Lab Sample ID: 410-128795-6

Date Collected: 05/26/23 09:10
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 20:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 20:48	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 20:48	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 20:48	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/07/23 20:48*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/07/23 20:48*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/07/23 20:48*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/07/23 20:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/07/23 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/07/23 18:33*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**290**		100	46	ug/L		06/07/23 07:50	06/08/23 04:19	1
C24-C40	**100**	**J**	260	100	ug/L		06/07/23 07:50	06/08/23 04:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*06/07/23 07:50*	*06/08/23 04:19*	*1*

Client Sample ID: MW-22-W-230526
Lab Sample ID: 410-128795-7

Date Collected: 05/26/23 10:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 21:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 21:12	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 21:12	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 21:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/07/23 21:12*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/07/23 21:12*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/07/23 21:12*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/07/23 21:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**190**	**J**	250	43	ug/L			06/07/23 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/07/23 18:59*	*1*

Client Sample ID: MW-22-W-230526
Lab Sample ID: 410-128795-7

Date Collected: 05/26/23 10:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1800		100	47	ug/L		06/07/23 07:50	06/08/23 04:42	1
C24-C40	900		260	100	ug/L		06/07/23 07:50	06/08/23 04:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*58*		*50 - 150*	*06/07/23 07:50*	*06/08/23 04:42*	*1*

Client Sample ID: DUP-2-WD-230526
Lab Sample ID: 410-128795-8

Date Collected: 05/26/23 10:07
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/07/23 21:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 21:36	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 21:36	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 21:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/07/23 21:36*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/07/23 21:36*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/07/23 21:36*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/07/23 21:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	200	J	250	43	ug/L			06/07/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*06/07/23 19:25*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1900		110	47	ug/L		06/07/23 07:50	06/08/23 05:05	1
C24-C40	1000		260	110	ug/L		06/07/23 07:50	06/08/23 05:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*06/07/23 07:50*	*06/08/23 05:05*	*1*

Client Sample ID: MW-32-W-230526
Lab Sample ID: 410-128795-9

Date Collected: 05/26/23 12:40
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.69	J	1.0	0.30	ug/L			06/07/23 22:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 22:00	1
Methyl tertiary butyl ether	ND	*- cn	1.0	0.20	ug/L			06/07/23 22:00	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 22:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 22:00	1

Client Sample ID: MW-32-W-230526
Lab Sample ID: 410-128795-9

Date Collected: 05/26/23 12:40
Matrix: Water
Date Received: 06/01/23 10:08

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		80 - 120		06/07/23 22:00	1
4-Bromofluorobenzene (Surr)	108		80 - 120		06/07/23 22:00	1
Dibromofluoromethane (Surr)	102		80 - 120		06/07/23 22:00	1
Toluene-d8 (Surr)	94		80 - 120		06/07/23 22:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	1000	cn	250	43	ug/L			06/07/23 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	90	cn	50 - 150		06/07/23 19:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	660		110	47	ug/L		06/07/23 07:50	06/08/23 05:27	1
C24-C40	ND		260	110	ug/L		06/07/23 07:50	06/08/23 05:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	68		50 - 150	06/07/23 07:50	06/08/23 05:27	1

Client Sample ID: TB-5-T-230530
Lab Sample ID: 410-128795-10

Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/05/23 19:22	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 19:22	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 19:22	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 19:22	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/05/23 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		80 - 120		06/05/23 19:22	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/05/23 19:22	1
Dibromofluoromethane (Surr)	106		80 - 120		06/05/23 19:22	1
Toluene-d8 (Surr)	96		80 - 120		06/05/23 19:22	1

Client Sample ID: TB-6-T-230530
Lab Sample ID: 410-128795-11

Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/05/23 19:46	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 19:46	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 19:46	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 19:46	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/05/23 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		80 - 120		06/05/23 19:46	1

Client Sample ID: TB-6-T-230530
Lab Sample ID: 410-128795-11

Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/05/23 19:46*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/05/23 19:46*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/05/23 19:46*	*1*

Client Sample ID: TB-7-T-230530
Lab Sample ID: 410-128795-12

Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/05/23 20:10	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 20:10	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 20:10	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 20:10	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/05/23 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/05/23 20:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/05/23 20:10*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/05/23 20:10*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/05/23 20:10*	*1*

Client Sample ID: TB-8-T-230530
Lab Sample ID: 410-128795-13

Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D/UST - 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			06/05/23 20:34	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 20:34	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 20:34	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 20:34	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/05/23 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/05/23 20:34*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/05/23 20:34*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/05/23 20:34*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/05/23 20:34*	*1*

Surrogate Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128795-1

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-128795-1	D-14-W-230526	88	101	103	93
410-128795-2	MW-21-W-230526	87	99	103	94
410-128795-3	MW-14-W-230526	86	100	103	93
410-128795-4	D-03A-W-230526	88	100	105	93
410-128795-5	MW-19-230526	90	107	101	94
410-128795-6	D-07-W-230526	87	101	105	94
410-128795-7	MW-22-W-230526	87	103	104	94
410-128795-8	DUP-2-WD-230526	87	101	104	93
410-128795-9	MW-32-W-230526	88	108	102	94
410-128795-10	TB-5-T-230530	88	100	106	96
410-128795-11	TB-6-T-230530	88	101	107	97
410-128795-12	TB-7-T-230530	88	100	107	96
410-128795-13	TB-8-T-230530	89	100	109	95
LCS 410-383011/4	Lab Control Sample	90	102	105	96
LCS 410-383928/4	Lab Control Sample	90	100	102	95
LCSD 410-383011/5	Lab Control Sample Dup	90	102	105	96
LCSD 410-383928/5	Lab Control Sample Dup	89	101	103	94
MB 410-383011/6	Method Blank	88	100	106	96
MB 410-383928/7	Method Blank	87	99	103	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-128795-1	D-14-W-230526	96
410-128795-2	MW-21-W-230526	94
410-128795-3	MW-14-W-230526	98
410-128795-4	D-03A-W-230526	96
410-128795-5	MW-19-230526	92
410-128795-6	D-07-W-230526	98
410-128795-7	MW-22-W-230526	94
410-128795-8	DUP-2-WD-230526	95
410-128795-9	MW-32-W-230526	90 cn
LCS 410-383841/6	Lab Control Sample	90
LCSD 410-383841/7	Lab Control Sample Dup	87
MB 410-383841/5	Method Blank	98

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Surrogate Summary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		OTP								
Lab Sample ID	Client Sample ID	(50-150)								
410-128795-1	D-14-W-230526	77								
410-128795-2	MW-21-W-230526	72								
410-128795-3	MW-14-W-230526	75								
410-128795-4	D-03A-W-230526	76								
410-128795-5	MW-19-230526	62								
410-128795-6	D-07-W-230526	77								
410-128795-7	MW-22-W-230526	58								
410-128795-8	DUP-2-WD-230526	61								
410-128795-9	MW-32-W-230526	68								
LCS 410-383778/2-A	Lab Control Sample	62								
MB 410-383778/1-A	Method Blank	69								

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-383011/6
Matrix: Water
Analysis Batch: 383011

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			06/05/23 15:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 15:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 15:23	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 15:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/05/23 15:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/05/23 15:23*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/05/23 15:23*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/05/23 15:23*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/05/23 15:23*	*1*

Lab Sample ID: LCS 410-383011/4
Matrix: Water
Analysis Batch: 383011

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	17.4		ug/L		87	80 - 120		
Ethylbenzene			20.0	17.5		ug/L		88	80 - 120		
Methyl tertiary butyl ether			20.0	16.3		ug/L		82	69 - 122		
Toluene			20.0	16.8		ug/L		84	80 - 120		
Xylenes, Total			60.0	53.0		ug/L		88	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: LCSD 410-383011/5
Matrix: Water
Analysis Batch: 383011

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	19.2		ug/L		96	80 - 120	10	30
Ethylbenzene			20.0	19.2		ug/L		96	80 - 120	9	30
Methyl tertiary butyl ether			20.0	17.9		ug/L		90	69 - 122	9	30
Toluene			20.0	18.7		ug/L		94	80 - 120	11	30
Xylenes, Total			60.0	58.0		ug/L		97	80 - 120	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-383928/7
Matrix: Water
Analysis Batch: 383928

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			06/07/23 15:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/07/23 15:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/07/23 15:36	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 15:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			06/07/23 15:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/07/23 15:36*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/07/23 15:36*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/07/23 15:36*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/07/23 15:36*	*1*

Lab Sample ID: LCS 410-383928/4
Matrix: Water
Analysis Batch: 383928

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	19.2		ug/L		96	80 - 120		
Ethylbenzene			20.0	18.3		ug/L		91	80 - 120		
Methyl tertiary butyl ether			20.0	14.3		ug/L		72	69 - 122		
Toluene			20.0	18.2		ug/L		91	80 - 120		
Xylenes, Total			60.0	55.6		ug/L		93	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 410-383928/5
Matrix: Water
Analysis Batch: 383928

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	18.6		ug/L		93	80 - 120	3	30
Ethylbenzene			20.0	17.7		ug/L		88	80 - 120	3	30
Methyl tertiary butyl ether			20.0	13.3	*-	ug/L		67	69 - 122	7	30
Toluene			20.0	17.5		ug/L		88	80 - 120	4	30
Xylenes, Total			60.0	53.8		ug/L		90	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-383841/5
Matrix: Water
Analysis Batch: 383841

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	43	ug/L			06/07/23 13:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/07/23 13:34*	*1*

Lab Sample ID: LCS 410-383841/6
Matrix: Water
Analysis Batch: 383841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1040		ug/L		95	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Lab Sample ID: LCSD 410-383841/7
Matrix: Water
Analysis Batch: 383841

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	1060		ug/L		96	64 - 131	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*87*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-383778/1-A
Matrix: Water
Analysis Batch: 383836

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383778

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/07/23 07:50	06/07/23 20:46	1
C24-C40	ND		250	100	ug/L		06/07/23 07:50	06/07/23 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*69*		*50 - 150*	*06/07/23 07:50*	*06/07/23 20:46*	*1*

Lab Sample ID: LCS 410-383778/2-A
Matrix: Water
Analysis Batch: 383836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383778

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	204		ug/L		34	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*62*		*50 - 150*

GC/MS VOA

Analysis Batch: 383011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-10	TB-5-T-230530	Total/NA	Water	8260D/UST	
410-128795-11	TB-6-T-230530	Total/NA	Water	8260D/UST	
410-128795-12	TB-7-T-230530	Total/NA	Water	8260D/UST	
410-128795-13	TB-8-T-230530	Total/NA	Water	8260D/UST	
MB 410-383011/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-383011/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-383011/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 383928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-1	D-14-W-230526	Total/NA	Water	8260D/UST	
410-128795-2	MW-21-W-230526	Total/NA	Water	8260D/UST	
410-128795-3	MW-14-W-230526	Total/NA	Water	8260D/UST	
410-128795-4	D-03A-W-230526	Total/NA	Water	8260D/UST	
410-128795-5	MW-19-230526	Total/NA	Water	8260D/UST	
410-128795-6	D-07-W-230526	Total/NA	Water	8260D/UST	
410-128795-7	MW-22-W-230526	Total/NA	Water	8260D/UST	
410-128795-8	DUP-2-WD-230526	Total/NA	Water	8260D/UST	
410-128795-9	MW-32-W-230526	Total/NA	Water	8260D/UST	
MB 410-383928/7	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-383928/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-383928/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 383841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-1	D-14-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-2	MW-21-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-3	MW-14-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-4	D-03A-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-5	MW-19-230526	Total/NA	Water	NWTPH-Gx	
410-128795-6	D-07-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-7	MW-22-W-230526	Total/NA	Water	NWTPH-Gx	
410-128795-8	DUP-2-WD-230526	Total/NA	Water	NWTPH-Gx	
410-128795-9	MW-32-W-230526	Total/NA	Water	NWTPH-Gx	
MB 410-383841/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-383841/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-383841/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 383778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-1	D-14-W-230526	Total/NA	Water	3510C	
410-128795-2	MW-21-W-230526	Total/NA	Water	3510C	
410-128795-3	MW-14-W-230526	Total/NA	Water	3510C	
410-128795-4	D-03A-W-230526	Total/NA	Water	3510C	
410-128795-5	MW-19-230526	Total/NA	Water	3510C	
410-128795-6	D-07-W-230526	Total/NA	Water	3510C	
410-128795-7	MW-22-W-230526	Total/NA	Water	3510C	
410-128795-8	DUP-2-WD-230526	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 383778 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-9	MW-32-W-230526	Total/NA	Water	3510C	
MB 410-383778/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-383778/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 383836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128795-1	D-14-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-2	MW-21-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-3	MW-14-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-4	D-03A-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-5	MW-19-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-6	D-07-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-7	MW-22-W-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-8	DUP-2-WD-230526	Total/NA	Water	NWTPH-Dx	383778
410-128795-9	MW-32-W-230526	Total/NA	Water	NWTPH-Dx	383778
MB 410-383778/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	383778
LCS 410-383778/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	383778

Lab Chronicle

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-14-W-230526
Lab Sample ID: 410-128795-1
Date Collected: 05/26/23 09:13
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 18:48
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 22:23
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 02:26

Client Sample ID: MW-21-W-230526
Lab Sample ID: 410-128795-2
Date Collected: 05/26/23 11:25
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 19:12
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 22:48
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 02:49

Client Sample ID: MW-14-W-230526
Lab Sample ID: 410-128795-3
Date Collected: 05/26/23 11:27
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 19:36
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 23:14
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 03:11

Client Sample ID: D-03A-W-230526
Lab Sample ID: 410-128795-4
Date Collected: 05/26/23 12:34
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 20:00
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 23:39
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 03:34

Client Sample ID: MW-19-230526
Lab Sample ID: 410-128795-5
Date Collected: 05/26/23 10:28
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 20:24
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/08/23 00:05
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 03:57

Lab Chronicle

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-07-W-230526
Lab Sample ID: 410-128795-6
Date Collected: 05/26/23 09:10
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 20:48
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 18:33
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 04:19

Client Sample ID: MW-22-W-230526
Lab Sample ID: 410-128795-7
Date Collected: 05/26/23 10:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 21:12
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 18:59
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 04:42

Client Sample ID: DUP-2-WD-230526
Lab Sample ID: 410-128795-8
Date Collected: 05/26/23 10:07
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 21:36
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 19:25
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 05:05

Client Sample ID: MW-32-W-230526
Lab Sample ID: 410-128795-9
Date Collected: 05/26/23 12:40
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383928	PV7W	ELLE	06/07/23 22:00
Total/NA	Analysis	NWTPH-Gx		1	383841	MXX6	ELLE	06/07/23 19:50
Total/NA	Prep	3510C			383778	YDF5	ELLE	06/07/23 07:50
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/08/23 05:27

Client Sample ID: TB-5-T-230530
Lab Sample ID: 410-128795-10
Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383011	UKAD	ELLE	06/05/23 19:22

Lab Chronicle

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-6-T-230530
Lab Sample ID: 410-128795-11
Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383011	UKAD	ELLE	06/05/23 19:46

Client Sample ID: TB-7-T-230530
Lab Sample ID: 410-128795-12
Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383011	UKAD	ELLE	06/05/23 20:10

Client Sample ID: TB-8-T-230530
Lab Sample ID: 410-128795-13
Date Collected: 05/09/23 12:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383011	UKAD	ELLE	06/05/23 20:34

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
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 Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-128795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-128795-1	D-14-W-230526	Water	05/26/23 09:13	06/01/23 10:08
410-128795-2	MW-21-W-230526	Water	05/26/23 11:25	06/01/23 10:08
410-128795-3	MW-14-W-230526	Water	05/26/23 11:27	06/01/23 10:08
410-128795-4	D-03A-W-230526	Water	05/26/23 12:34	06/01/23 10:08
410-128795-5	MW-19-230526	Water	05/26/23 10:28	06/01/23 10:08
410-128795-6	D-07-W-230526	Water	05/26/23 09:10	06/01/23 10:08
410-128795-7	MW-22-W-230526	Water	05/26/23 10:00	06/01/23 10:08
410-128795-8	DUP-2-WD-230526	Water	05/26/23 10:07	06/01/23 10:08
410-128795-9	MW-32-W-230526	Water	05/26/23 12:40	06/01/23 10:08
410-128795-10	TB-5-T-230530	Water	05/09/23 12:00	06/01/23 10:08
410-128795-11	TB-6-T-230530	Water	05/09/23 12:00	06/01/23 10:08
410-128795-12	TB-7-T-230530	Water	05/09/23 12:00	06/01/23 10:08
410-128795-13	TB-8-T-230530	Water	05/09/23 12:00	06/01/23 10:08

410-128795 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Sampler: Lillian Celovsky	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:	
Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin:	Page: 1 of
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: \ Yes \ No			
Phone: 971 323 6262	PO #: 152363			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
~~D-14-W-230526~~	~~5/26/23~~	~~0913~~		W	N		X	X	X		
D-14-W-230526	5/26/23	0913		W	N	N	X	X	X		
MW-21-W-230526	5/26/23	1125		W	N	N	X	X	X		
MW-14-W-230526	5/26/23	1127		W	N	N	X	X	X		
D-03A-W-230526	5/26/23	1234		W	N	N	X	X	X		
MW-19-230526	5/26/23	1028		W	N	N	X	X	X		
D-07-W-230526	5/26/23	0910		W	N	N	X	X	X		
MW-22-W-230526	5/26/23	1000		W	N	N	X	X	X		
DUP-2-WD-230526	5/26/23	1007		W	N	N	X	X	X		
MW-32-W-230526	5/26/23	1240		W	N	N	X	X	X		
TB-5-T-230530 5/9/23	~~5/30/23~~	1200		W		N	X		X		
TB-6-T-230530 5/9/23	~~5/30/23~~	1200		W		N	X		X		
TB-7-T-230530 5/9/23	~~5/30/23~~	1200		W		N	X		X		
TB-8-T-230530	5/9/23	1200		W		N	X		X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 5/30/23 1201	Company: AECOM	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 6/1/23 10:08	Company: ECET	

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: RAW: 1.3 CORR: 1.3

HC X

Ver: 01/16/2019

6/12/2023

410-128805 Chain of Custody

Environmental Analysis Request/Chain of Custody

Environmental ...ries

Acct. # ______ Group # ______ Sample # ______

Client: WSP USA Inc.	
Project Name/#: POET Sampling	Site ID #:
Project Manager: Brendan Lennon	P.O. #: 2014227005
Sampler: Secondwind / Spencer Cusson	PWSID #:
Phone #: 508-329-7965 (Brendan Lennon)	Quote #:
State where samples were collected: NH	For Compliance: Yes ☐ No ☒

Matrix: Tissue ☐, Sediment ☐, Soil ☐; Water: Ground ☒, Surface ☐, Potable, NPDES ☐; Other:

Analyses Requested — Preservation and Filtration Codes: -

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	EPA 537 Mod (PFOA / PFOS / PFNA / PFHxS)	Remarks
AW-05210-SINK	5-31-23	9:15a	X			X		2	X	
AW-05210-EFF	5-31-23	9:21a	X			X		2	X	HOLD
AW-05210-INF	5-31-23	9:27a	X			X		2	X	

For Lab Use Only
SF #: ______
SCR #: ______

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
F = Field Filtered O = Other

Address: 127 Wallace Rd, Bedford NH
Flow Meter: 3210

Turnaround Time Requested (TAT) (please check): Standard ☒ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed: 10 Days from receiving the sample

Rush results requested by (please check): E-Mail ☐ Phone ☐

Email: POET distribution list

Relinquished by	Date	Time	Received by	Date	Time
Caleb Dwyer	5-31-23	11:34			
			[signature]	6/1/23	1008

Relinquished by Commercial Carrier: UPS ____ FedEx X ____ Other ____

Temperature upon receipt: RAW 0.4 / CORR 0.4 °C

Data Package Options (please check if required)
Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NJ DKQP ☐ NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☒ No ☐ If yes, format: WSP EDD

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

7045 0717

SW-01

HC

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-128795-1

Login Number: 128795

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Chambers, Haley

Question	Answer	Comment
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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	
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Christina Wheeler
AECOM
888 Southwest 5th Avenue
Suite 600
Portland, Oregon 97204

Generated 8/9/2023 3:37:42 PM Revision 1

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-128356-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/9/2023 3:37:42 PM
Revision 1

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 10
Surrogate Summary 22
QC Sample Results 25
QC Association Summary 34
Lab Chronicle 37
Certification Summary 41
Method Summary 42
Sample Summary 43
Chain of Custody 44
Receipt Checklists 47

Definitions/Glossary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128356-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-128356-1

Revision
The report being provided is a revision of the original report sent on 6/8/2023. The report (revision 1) is being revised due to: Sample ID corrected for D-27.

Receipt
The samples were received on 5/26/2023 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.5°C, 0.7°C and 1.4°C

Receipt Exceptions
The following sample was listed on the Chain of Custody (COC); however, no sample was received: D-12-W-230524 (410-128356-13).

GC/MS VOA
Method 8260D_UST: The continuing calibration verification (CCV) analyzed on 410-383450 is compliant under 8260C/D method criteria for Methyl tertiary butyl ether . The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the check passes the criteria with a value of 20% Drift.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: D-06-W-230524 (410-128356-17). Evidence of matrix interference is present; 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.

Detection Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128356-1

Client Sample ID: MW-38-W-230525 — Lab Sample ID: 410-128356-1

No Detections.

Client Sample ID: MW-39-W-230525 — Lab Sample ID: 410-128356-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	82	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2000		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	410		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-26-W-230525 — Lab Sample ID: 410-128356-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	230		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	120	J	270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-27-W-230525 — Lab Sample ID: 410-128356-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	47	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2000		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	560		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-22-W-230525 — Lab Sample ID: 410-128356-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	230		110	48	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-37-W-230525 — Lab Sample ID: 410-128356-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	84	J	110	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-34-W-230525 — Lab Sample ID: 410-128356-7

No Detections.

Client Sample ID: D-25-W-230525 — Lab Sample ID: 410-128356-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1200		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	380		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-24-W-230525 — Lab Sample ID: 410-128356-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	260		110	49	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-10-W-230525 — Lab Sample ID: 410-128356-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	43	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1200		110	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	190	J	260	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-36-W-230525 — Lab Sample ID: 410-128356-11

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128356-1

Client Sample ID: MW-25-W-230525 — Lab Sample ID: 410-128356-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.5		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Ethylbenzene	1.8		1.0	0.40	ug/L	1		8260D/UST	Total/NA
Toluene	0.51	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1200		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	160		100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-15-W-230524 — Lab Sample ID: 410-128356-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1900		110	50	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	800		280	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-29-W-230524 — Lab Sample ID: 410-128356-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	720		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4500		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	420		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-01-W-230524 — Lab Sample ID: 410-128356-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	180	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4200		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	650		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-06-W-230524 — Lab Sample ID: 410-128356-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	210	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2100	cn	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	220	J cn	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-1-WD-230524 — Lab Sample ID: 410-128356-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	180	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4400		110	48	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	620		270	110	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-13-W-230524 — Lab Sample ID: 410-128356-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	270		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	740		110	49	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-18-W-230524 — Lab Sample ID: 410-128356-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	590		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2600		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	380		260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-2-T-230525 **Lab Sample ID: 410-128356-21**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-38-W-230525

Lab Sample ID: 410-128356-1
Date Collected: 05/25/23 08:39
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 15:21	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 15:21	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 15:21	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 15:21	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/06/23 15:21*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 15:21*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/06/23 15:21*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/06/23 15:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/05/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 18:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/06/23 15:32	06/07/23 13:11	1
C24-C40	ND		260	100	ug/L		06/06/23 15:32	06/07/23 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*78*		*50 - 150*	*06/06/23 15:32*	*06/07/23 13:11*	*1*

Client Sample ID: MW-39-W-230525

Lab Sample ID: 410-128356-2
Date Collected: 05/25/23 08:40
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 15:45	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 15:45	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 15:45	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 15:45	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/06/23 15:45*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/06/23 15:45*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/06/23 15:45*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 15:45*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**82**	**J**	250	43	ug/L			06/05/23 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*		*06/05/23 18:36*	*1*

Client Sample ID: MW-39-W-230525
Lab Sample ID: 410-128356-2
Date Collected: 05/25/23 08:40
Matrix: Water
Date Received: 05/26/23 09:45

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	2000		100	47	ug/L		06/06/23 15:32	06/07/23 13:34	1
C24-C40	410		260	100	ug/L		06/06/23 15:32	06/07/23 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*68*		*50 - 150*	*06/06/23 15:32*	*06/07/23 13:34*	*1*

Client Sample ID: D-26-W-230525
Lab Sample ID: 410-128356-3
Date Collected: 05/25/23 09:38
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 16:09	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 16:09	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 16:09	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 16:09	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/06/23 16:09*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*06/06/23 16:09*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/06/23 16:09*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 16:09*	*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	43	ug/L			06/06/23 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/06/23 20:10*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	230		110	48	ug/L		06/06/23 15:32	06/07/23 13:57	1
C24-C40	120	J	270	110	ug/L		06/06/23 15:32	06/07/23 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*60*		*50 - 150*	*06/06/23 15:32*	*06/07/23 13:57*	*1*

Client Sample ID: D-27-W-230525
Lab Sample ID: 410-128356-4
Date Collected: 05/25/23 09:45
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 17:21	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 17:21	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 17:21	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 17:21	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 17:21	1

Client Sample ID: D-27-W-230525

Lab Sample ID: 410-128356-4

Date Collected: 05/25/23 09:45
Date Received: 05/26/23 09:45

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/06/23 17:21*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/06/23 17:21*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 120*		*06/06/23 17:21*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/06/23 17:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**47**	**J**	250	43	ug/L			06/05/23 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 20:18*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2000**		100	47	ug/L		06/06/23 15:32	06/07/23 15:05	1
C24-C40	**560**		260	100	ug/L		06/06/23 15:32	06/07/23 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*69*		*50 - 150*	*06/06/23 15:32*	*06/07/23 15:05*	*1*

Client Sample ID: D-22-W-230525

Lab Sample ID: 410-128356-5

Date Collected: 05/25/23 11:10
Date Received: 05/26/23 09:45

Matrix: Water

Method: SW846 8260D/UST - 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			06/06/23 15:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 15:32	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 15:32	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 15:32	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/06/23 15:32*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 15:32*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/06/23 15:32*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/06/23 15:32*	*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	43	ug/L			06/05/23 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 20:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**230**		110	48	ug/L		06/06/23 15:32	06/07/23 15:28	1
C24-C40	ND		270	110	ug/L		06/06/23 15:32	06/07/23 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*89*		*50 - 150*	*06/06/23 15:32*	*06/07/23 15:28*	*1*

Client Sample ID: MW-37-W-230525
Lab Sample ID: 410-128356-6

Date Collected: 05/25/23 11:22
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 15:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 15:56	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 15:56	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 15:56	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/06/23 15:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 15:56*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/06/23 15:56*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/06/23 15:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/06/23 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/06/23 21:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**84**	**J**	110	47	ug/L		06/06/23 15:32	06/07/23 15:50	1
C24-C40	ND		260	110	ug/L		06/06/23 15:32	06/07/23 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*06/06/23 15:32*	*06/07/23 15:50*	*1*

Client Sample ID: MW-34-W-230525
Lab Sample ID: 410-128356-7

Date Collected: 05/25/23 12:10
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 16:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 16:20	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 16:20	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 16:20	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*06/06/23 16:20*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/06/23 16:20*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*06/06/23 16:20*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/06/23 16:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/07/23 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/07/23 01:18*	*1*

Client Sample ID: MW-34-W-230525
Lab Sample ID: 410-128356-7
Date Collected: 05/25/23 12:10
Matrix: Water
Date Received: 05/26/23 09:45

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		06/06/23 15:32	06/07/23 16:36	1
C24-C40	ND		260	100	ug/L		06/06/23 15:32	06/07/23 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*78*		*50 - 150*	*06/06/23 15:32*	*06/07/23 16:36*	*1*

Client Sample ID: D-25-W-230525
Lab Sample ID: 410-128356-8
Date Collected: 05/25/23 12:16
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 17:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 17:32	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 17:32	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 17:32	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/06/23 17:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/06/23 17:32*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/06/23 17:32*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 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)	ND		250	43	ug/L			06/06/23 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*06/06/23 21:53*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**		110	48	ug/L		06/06/23 15:32	06/07/23 17:44	1
C24-C40	**380**		270	110	ug/L		06/06/23 15:32	06/07/23 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*06/06/23 15:32*	*06/07/23 17:44*	*1*

Client Sample ID: D-24-W-230525
Lab Sample ID: 410-128356-9
Date Collected: 05/25/23 13:37
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 17:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 17:56	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 17:56	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 17:56	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 17:56	1

Client Sample ID: D-24-W-230525

Lab Sample ID: 410-128356-9
Matrix: Water
Date Collected: 05/25/23 13:37
Date Received: 05/26/23 09:45

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*06/06/23 17:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 17:56*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/06/23 17:56*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/06/23 17:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/06/23 22:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/06/23 22:19*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**260**		110	49	ug/L		06/06/23 15:32	06/07/23 18:07	1
C24-C40	ND		270	110	ug/L		06/06/23 15:32	06/07/23 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*06/06/23 15:32*	*06/07/23 18:07*	*1*

Client Sample ID: D-10-W-230525

Lab Sample ID: 410-128356-10
Matrix: Water
Date Collected: 05/25/23 13:55
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 18:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 18:20	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 18:20	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 18:20	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*06/06/23 18:20*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/06/23 18:20*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/06/23 18:20*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 18:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**43**	**J**	250	43	ug/L			06/06/23 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*06/06/23 22:44*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**		110	47	ug/L		06/06/23 15:32	06/07/23 18:29	1
C24-C40	**190**	**J**	260	110	ug/L		06/06/23 15:32	06/07/23 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*06/06/23 15:32*	*06/07/23 18:29*	*1*

Client Sample ID: MW-36-W-230525
Lab Sample ID: 410-128356-11

Date Collected: 05/25/23 14:47
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/06/23 18:44	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 18:44	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 18:44	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 18:44	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*06/06/23 18:44*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 18:44*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/06/23 18:44*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 18:44*	*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	43	ug/L			06/06/23 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/06/23 23:10*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		110	50	ug/L		06/06/23 15:32	06/07/23 18:52	1
C24-C40	ND		280	110	ug/L		06/06/23 15:32	06/07/23 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*71*		*50 - 150*	*06/06/23 15:32*	*06/07/23 18:52*	*1*

Client Sample ID: MW-25-W-230525
Lab Sample ID: 410-128356-12

Date Collected: 05/25/23 15:05
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.5**		1.0	0.30	ug/L			06/06/23 19:08	1
Ethylbenzene	**1.8**		1.0	0.40	ug/L			06/06/23 19:08	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			06/06/23 19:08	1
Toluene	**0.51**	**J**	1.0	0.30	ug/L			06/06/23 19:08	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/06/23 19:08*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*06/06/23 19:08*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*06/06/23 19:08*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 19:08*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**1200**		250	43	ug/L			06/06/23 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*06/06/23 23:35*	*1*

Client Sample ID: MW-25-W-230525
Lab Sample ID: 410-128356-12
Date Collected: 05/25/23 15:05
Matrix: Water
Date Received: 05/26/23 09:45

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	160		100	47	ug/L		06/06/23 15:32	06/07/23 19:15	1
C24-C40	ND		260	100	ug/L		06/06/23 15:32	06/07/23 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*06/06/23 15:32*	*06/07/23 19:15*	*1*

Client Sample ID: D-15-W-230524
Lab Sample ID: 410-128356-14
Date Collected: 05/24/23 13:00
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 17:34	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 17:34	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 17:34	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 17:34	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/05/23 17:34*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/05/23 17:34*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/05/23 17:34*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/05/23 17:34*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			06/05/23 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 21:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1900		110	50	ug/L		06/05/23 15:36	06/06/23 19:01	1
C24-C40	800		280	110	ug/L		06/05/23 15:36	06/06/23 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*67*		*50 - 150*	*06/05/23 15:36*	*06/06/23 19:01*	*1*

Client Sample ID: MW-29-W-230524
Lab Sample ID: 410-128356-15
Date Collected: 05/24/23 11:10
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 17:58	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 17:58	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 17:58	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 17:58	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 17:58	1

Client Sample ID: MW-29-W-230524
Lab Sample ID: 410-128356-15
Date Collected: 05/24/23 11:10
Matrix: Water
Date Received: 05/26/23 09:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		80 - 120		06/05/23 17:58	1
4-Bromofluorobenzene (Surr)	109		80 - 120		06/05/23 17:58	1
Dibromofluoromethane (Surr)	102		80 - 120		06/05/23 17:58	1
Toluene-d8 (Surr)	94		80 - 120		06/05/23 17:58	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	43	ug/L			06/05/23 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	96		50 - 150		06/05/23 21:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4500		100	47	ug/L		06/05/23 15:36	06/06/23 19:24	1
C24-C40	420		260	100	ug/L		06/05/23 15:36	06/06/23 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	69		50 - 150	06/05/23 15:36	06/06/23 19:24	1

Client Sample ID: D-01-W-230524
Lab Sample ID: 410-128356-16
Date Collected: 05/24/23 14:15
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 18:22	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 18:22	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 18:22	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 18:22	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		80 - 120		06/05/23 18:22	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/05/23 18:22	1
Dibromofluoromethane (Surr)	103		80 - 120		06/05/23 18:22	1
Toluene-d8 (Surr)	95		80 - 120		06/05/23 18:22	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	180	J	250	43	ug/L			06/05/23 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	95		50 - 150		06/05/23 22:00	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4200		110	48	ug/L		06/05/23 15:36	06/06/23 19:46	1
C24-C40	650		270	110	ug/L		06/05/23 15:36	06/06/23 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	72		50 - 150	06/05/23 15:36	06/06/23 19:46	1

Client Sample ID: D-06-W-230524

Lab Sample ID: 410-128356-17

Date Collected: 05/24/23 14:35

Matrix: Water

Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 18:46	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 18:46	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 18:46	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 18:46	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*06/05/23 18:46*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/05/23 18:46*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/05/23 18:46*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/05/23 18:46*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	210	J	250	43	ug/L			06/05/23 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*06/05/23 23:17*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	2100	cn	100	47	ug/L		06/05/23 15:36	06/06/23 20:09	1
C24-C40	220	J cn	260	100	ug/L		06/05/23 15:36	06/06/23 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*43*	*S1- cn*	*50 - 150*	*06/05/23 15:36*	*06/06/23 20:09*	*1*

Client Sample ID: DUP-1-WD-230524

Lab Sample ID: 410-128356-18

Date Collected: 05/24/23 12:00

Matrix: Water

Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 19:10	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 19:10	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 19:10	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 19:10	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/05/23 19:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/05/23 19:10*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*06/05/23 19:10*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/05/23 19:10*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	180	J	250	43	ug/L			06/05/23 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 23:43*	*1*

Client Sample ID: DUP-1-WD-230524
Lab Sample ID: 410-128356-18
Date Collected: 05/24/23 12:00
Matrix: Water
Date Received: 05/26/23 09:45

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	4400		110	48	ug/L		06/05/23 15:36	06/06/23 20:32	1
C24-C40	620		270	110	ug/L		06/05/23 15:36	06/06/23 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*76*		*50 - 150*	*06/05/23 15:36*	*06/06/23 20:32*	*1*

Client Sample ID: MW-13-W-230524
Lab Sample ID: 410-128356-19
Date Collected: 05/24/23 15:35
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 19:34	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 19:34	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 19:34	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 19:34	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/05/23 19:34*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/05/23 19:34*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/05/23 19:34*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/05/23 19:34*	*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	43	ug/L			06/06/23 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/06/23 00:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	740		110	49	ug/L		06/05/23 15:36	06/06/23 20:54	1
C24-C40	ND		270	110	ug/L		06/05/23 15:36	06/06/23 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*60*		*50 - 150*	*06/05/23 15:36*	*06/06/23 20:54*	*1*

Client Sample ID: MW-18-W-230524
Lab Sample ID: 410-128356-20
Date Collected: 05/24/23 16:10
Matrix: Water
Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 19:58	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 19:58	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 19:58	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 19:58	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 19:58	1

Client Sample ID: MW-18-W-230524

Lab Sample ID: 410-128356-20

Date Collected: 05/24/23 16:10

Matrix: Water

Date Received: 05/26/23 09:45

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*06/05/23 19:58*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/05/23 19:58*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/05/23 19:58*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/05/23 19:58*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**590**		250	43	ug/L			06/06/23 00:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*06/06/23 00:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2600**		100	46	ug/L		06/05/23 15:36	06/06/23 21:17	1
C24-C40	**380**		260	100	ug/L		06/05/23 15:36	06/06/23 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*66*		*50 - 150*	*06/05/23 15:36*	*06/06/23 21:17*	*1*

Client Sample ID: TB-2-T-230525

Lab Sample ID: 410-128356-21

Date Collected: 05/25/23 00:00

Matrix: Water

Date Received: 05/26/23 09:45

Method: SW846 8260D/UST - 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			06/05/23 15:58	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 15:58	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 15:58	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 15:58	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*06/05/23 15:58*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/05/23 15:58*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/05/23 15:58*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/05/23 15:58*	*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	43	ug/L			06/06/23 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*06/06/23 19:19*	*1*

Surrogate Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-128356-1

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-128356-1	MW-38-W-230525	89	100	106	96
410-128356-2	MW-39-W-230525	87	99	107	95
410-128356-3	D-26-W-230525	88	98	107	95
410-128356-3 MS	D-26-W-230525	90	103	105	96
410-128356-3 MSD	D-26-W-230525	90	100	105	95
410-128356-4	D-27-W-230525	89	99	109	96
410-128356-5	D-22-W-230525	87	100	103	94
410-128356-6	MW-37-W-230525	88	100	103	94
410-128356-7	MW-34-W-230525	91	101	106	94
410-128356-7 MS	MW-34-W-230525	91	102	104	95
410-128356-7 MSD	MW-34-W-230525	89	101	102	94
410-128356-8	D-25-W-230525	88	99	104	95
410-128356-9	D-24-W-230525	90	100	103	94
410-128356-10	D-10-W-230525	91	102	103	95
410-128356-11	MW-36-W-230525	90	100	105	95
410-128356-12	MW-25-W-230525	89	110	105	95
410-128356-14	D-15-W-230524	87	99	102	95
410-128356-15	MW-29-W-230524	88	109	102	94
410-128356-16	D-01-W-230524	89	99	103	95
410-128356-17	D-06-W-230524	86	101	103	95
410-128356-18	DUP-1-WD-230524	88	101	103	94
410-128356-19	MW-13-W-230524	89	102	102	95
410-128356-20	MW-18-W-230524	89	102	104	95
410-128356-21	TB-2-T-230525	87	100	102	96
LCS 410-383014/4	Lab Control Sample	90	99	103	93
LCS 410-383448/4	Lab Control Sample	90	100	106	96
LCS 410-383450/4	Lab Control Sample	91	102	104	94
LCSD 410-383014/5	Lab Control Sample Dup	90	101	103	95
LCSD 410-383448/5	Lab Control Sample Dup	91	102	106	96
LCSD 410-383450/5	Lab Control Sample Dup	91	101	103	95
MB 410-383014/6	Method Blank	90	100	102	96
MB 410-383448/6	Method Blank	88	99	107	95
MB 410-383450/6	Method Blank	88	100	104	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-128356-1	MW-38-W-230525	96
410-128356-2	MW-39-W-230525	92
410-128356-3	D-26-W-230525	98
410-128356-3 MS	D-26-W-230525	91

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)
410-128356-3 MSD	D-26-W-230525	90
410-128356-4	D-27-W-230525	96
410-128356-5	D-22-W-230525	96
410-128356-6	MW-37-W-230525	97
410-128356-7	MW-34-W-230525	97
410-128356-7 MS	MW-34-W-230525	90
410-128356-7 MSD	MW-34-W-230525	88
410-128356-8	D-25-W-230525	99
410-128356-9	D-24-W-230525	98
410-128356-10	D-10-W-230525	98
410-128356-11	MW-36-W-230525	96
410-128356-12	MW-25-W-230525	93
410-128356-14	D-15-W-230524	96
410-128356-15	MW-29-W-230524	96
410-128356-16	D-01-W-230524	95
410-128356-17	D-06-W-230524	93
410-128356-18	DUP-1-WD-230524	96
410-128356-19	MW-13-W-230524	96
410-128356-20	MW-18-W-230524	94
410-128356-21	TB-2-T-230525	97
LCS 410-382955/6	Lab Control Sample	89
LCS 410-383454/6	Lab Control Sample	90
LCSD 410-382955/7	Lab Control Sample Dup	89
LCSD 410-383454/7	Lab Control Sample Dup	89
MB 410-382955/5	Method Blank	96
MB 410-383454/5	Method Blank	99

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTP (50-150)
410-128356-1	MW-38-W-230525	78
410-128356-2	MW-39-W-230525	68
410-128356-3	D-26-W-230525	60
410-128356-3 MS	D-26-W-230525	75
410-128356-3 MSD	D-26-W-230525	67
410-128356-4	D-27-W-230525	69
410-128356-5	D-22-W-230525	89
410-128356-6	MW-37-W-230525	82
410-128356-7	MW-34-W-230525	78
410-128356-7 MS	MW-34-W-230525	83
410-128356-7 MSD	MW-34-W-230525	83
410-128356-8	D-25-W-230525	74
410-128356-9	D-24-W-230525	83
410-128356-10	D-10-W-230525	72
410-128356-11	MW-36-W-230525	71

Surrogate Summary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTP (50-150)						
410-128356-12	MW-25-W-230525	81						
410-128356-14	D-15-W-230524	67						
410-128356-15	MW-29-W-230524	69						
410-128356-16	D-01-W-230524	72						
410-128356-17	D-06-W-230524	43 S1- cn						
410-128356-18	DUP-1-WD-230524	76						
410-128356-19	MW-13-W-230524	60						
410-128356-20	MW-18-W-230524	66						
LCS 410-383083/2-A	Lab Control Sample	83						
LCS 410-383525/2-A	Lab Control Sample	84						
LCSD 410-383083/3-A	Lab Control Sample Dup	88						
MB 410-383083/1-A	Method Blank	83						
MB 410-383525/1-A	Method Blank	80						

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-383014/6
Matrix: Water
Analysis Batch: 383014

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			06/05/23 15:34	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/05/23 15:34	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/05/23 15:34	1
Toluene	ND		1.0	0.30	ug/L			06/05/23 15:34	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/05/23 15:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*06/05/23 15:34*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/05/23 15:34*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*06/05/23 15:34*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/05/23 15:34*	*1*

Lab Sample ID: LCS 410-383014/4
Matrix: Water
Analysis Batch: 383014

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	18.6		ug/L		93	80 - 120		
Ethylbenzene			20.0	17.9		ug/L		89	80 - 120		
Methyl tertiary butyl ether			20.0	14.8		ug/L		74	69 - 122		
Toluene			20.0	17.5		ug/L		87	80 - 120		
Xylenes, Total			60.0	53.9		ug/L		90	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*93*		*80 - 120*

Lab Sample ID: LCSD 410-383014/5
Matrix: Water
Analysis Batch: 383014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	19.1		ug/L		95	80 - 120	3	30
Ethylbenzene			20.0	18.7		ug/L		93	80 - 120	5	30
Methyl tertiary butyl ether			20.0	15.0		ug/L		75	69 - 122	1	30
Toluene			20.0	18.2		ug/L		91	80 - 120	4	30
Xylenes, Total			60.0	55.6		ug/L		93	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-383448/6
Matrix: Water
Analysis Batch: 383448

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			06/06/23 14:57	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 14:57	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 14:57	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 14:57	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 14:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/06/23 14:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/06/23 14:57*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*06/06/23 14:57*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/06/23 14:57*	*1*

Lab Sample ID: LCS 410-383448/4
Matrix: Water
Analysis Batch: 383448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	20.0	20.9		ug/L		104	80 - 120
Ethylbenzene	20.0	20.0		ug/L		100	80 - 120
Methyl tertiary butyl ether	20.0	18.4		ug/L		92	69 - 122
Toluene	20.0	19.1		ug/L		95	80 - 120
Xylenes, Total	60.0	60.1		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: LCSD 410-383448/5
Matrix: Water
Analysis Batch: 383448

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	20.0	19.9		ug/L		100	80 - 120	4	30
Ethylbenzene	20.0	19.3		ug/L		96	80 - 120	3	30
Methyl tertiary butyl ether	20.0	18.4		ug/L		92	69 - 122	0	30
Toluene	20.0	19.1		ug/L		95	80 - 120	0	30
Xylenes, Total	60.0	59.1		ug/L		99	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-128356-3 MS
Matrix: Water
Analysis Batch: 383448

Client Sample ID: D-26-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	21.7		ug/L		108	80 - 120
Ethylbenzene	ND		20.0	21.0		ug/L		105	80 - 120
Methyl tertiary butyl ether	ND		20.0	19.0		ug/L		95	69 - 122
Toluene	ND		20.0	20.4		ug/L		102	80 - 120
Xylenes, Total	ND		60.0	64.0		ug/L		107	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: 410-128356-3 MSD
Matrix: Water
Analysis Batch: 383448

Client Sample ID: D-26-W-230525
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	20.4		ug/L		102	80 - 120	6	30
Ethylbenzene	ND		20.0	19.5		ug/L		98	80 - 120	7	30
Methyl tertiary butyl ether	ND		20.0	17.6		ug/L		88	69 - 122	7	30
Toluene	ND		20.0	19.2		ug/L		96	80 - 120	6	30
Xylenes, Total	ND		60.0	59.4		ug/L		99	80 - 120	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 410-383450/6
Matrix: Water
Analysis Batch: 383450

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			06/06/23 15:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			06/06/23 15:08	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			06/06/23 15:08	1
Toluene	ND		1.0	0.30	ug/L			06/06/23 15:08	1
Xylenes, Total	ND		6.0	1.4	ug/L			06/06/23 15:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*06/06/23 15:08*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/06/23 15:08*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*06/06/23 15:08*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/06/23 15:08*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-383450/4
Matrix: Water
Analysis Batch: 383450

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	18.2		ug/L		91	80 - 120		
Ethylbenzene			20.0	17.2		ug/L		86	80 - 120		
Methyl tertiary butyl ether			20.0	14.0		ug/L		70	69 - 122		
Toluene			20.0	17.0		ug/L		85	80 - 120		
Xylenes, Total			60.0	52.5		ug/L		88	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Lab Sample ID: LCSD 410-383450/5
Matrix: Water
Analysis Batch: 383450

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	21.2		ug/L		106	80 - 120	15	30
Ethylbenzene			20.0	20.5		ug/L		102	80 - 120	17	30
Methyl tertiary butyl ether			20.0	16.4		ug/L		82	69 - 122	16	30
Toluene			20.0	20.5		ug/L		103	80 - 120	19	30
Xylenes, Total			60.0	61.9		ug/L		103	80 - 120	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 410-128356-7 MS
Matrix: Water
Analysis Batch: 383450

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		20.0	21.2		ug/L		106	80 - 120		
Ethylbenzene	ND		20.0	20.4		ug/L		102	80 - 120		
Methyl tertiary butyl ether	ND	cn	20.0	15.6		ug/L		78	69 - 122		
Toluene	ND		20.0	20.5		ug/L		102	80 - 120		
Xylenes, Total	ND		60.0	62.6		ug/L		104	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-128356-7 MSD
Matrix: Water
Analysis Batch: 383450

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	20.3		ug/L		101	80 - 120	4	30
Ethylbenzene	ND		20.0	19.2		ug/L		96	80 - 120	6	30
Methyl tertiary butyl ether	ND	cn	20.0	15.0		ug/L		75	69 - 122	4	30
Toluene	ND		20.0	19.1		ug/L		96	80 - 120	7	30
Xylenes, Total	ND		60.0	58.4		ug/L		97	80 - 120	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-382955/5
Matrix: Water
Analysis Batch: 382955

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	43	ug/L			06/05/23 13:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*06/05/23 13:24*	*1*

Lab Sample ID: LCS 410-382955/6
Matrix: Water
Analysis Batch: 382955

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	1030		ug/L		94	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Lab Sample ID: LCSD 410-382955/7
Matrix: Water
Analysis Batch: 382955

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		96	64 - 131	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-383454/5
Matrix: Water
Analysis Batch: 383454

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	43	ug/L			06/06/23 16:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*06/06/23 16:01*	*1*

Lab Sample ID: LCS 410-383454/6
Matrix: Water
Analysis Batch: 383454

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)	*90*		*50 - 150*

Lab Sample ID: LCSD 410-383454/7
Matrix: Water
Analysis Batch: 383454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1010		ug/L		92	64 - 131	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Lab Sample ID: 410-128356-3 MS
Matrix: Water
Analysis Batch: 383454

Client Sample ID: D-26-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND		1120	1150		ug/L		103	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Lab Sample ID: 410-128356-3 MSD
Matrix: Water
Analysis Batch: 383454

Client Sample ID: D-26-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1180		ug/L		106	80 - 120	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-128356-7 MS
Matrix: Water
Analysis Batch: 383454

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND		1120	1150		ug/L		103	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Lab Sample ID: 410-128356-7 MSD
Matrix: Water
Analysis Batch: 383454

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1180		ug/L		106	80 - 120	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*88*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-383083/1-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383083

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/05/23 15:36	06/06/23 11:50	1
C24-C40	ND		250	100	ug/L		06/05/23 15:36	06/06/23 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*06/05/23 15:36*	*06/06/23 11:50*	*1*

Lab Sample ID: LCS 410-383083/2-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383083

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	283		ug/L		47	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*83*		*50 - 150*

Lab Sample ID: LCSD 410-383083/3-A
Matrix: Water
Analysis Batch: 383370

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383083

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	305		ug/L		50	14 - 115	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*88*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-383525/1-A
Matrix: Water
Analysis Batch: 383836

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		06/06/23 15:32	06/07/23 12:26	1
C24-C40	ND		250	100	ug/L		06/06/23 15:32	06/07/23 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*06/06/23 15:32*	*06/07/23 12:26*	*1*

Lab Sample ID: LCS 410-383525/2-A
Matrix: Water
Analysis Batch: 383836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383525

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	302		ug/L		50	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*84*		*50 - 150*

Lab Sample ID: 410-128356-3 MS
Matrix: Water
Analysis Batch: 383836

Client Sample ID: D-26-W-230525
Prep Type: Total/NA
Prep Batch: 383525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	230		674	545		ug/L		47	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*75*		*50 - 150*

Lab Sample ID: 410-128356-3 MSD
Matrix: Water
Analysis Batch: 383836

Client Sample ID: D-26-W-230525
Prep Type: Total/NA
Prep Batch: 383525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	230		660	517		ug/L		44	30 - 115	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*67*		*50 - 150*

Lab Sample ID: 410-128356-7 MS
Matrix: Water
Analysis Batch: 383836

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA
Prep Batch: 383525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	ND		646	323		ug/L		50	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*83*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-128356-7 MSD
Matrix: Water
Analysis Batch: 383836

Client Sample ID: MW-34-W-230525
Prep Type: Total/NA
Prep Batch: 383525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	ND		618	309		ug/L		50	30 - 115	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*83*		*50 - 150*

GC/MS VOA

Analysis Batch: 383014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-14	D-15-W-230524	Total/NA	Water	8260D/UST	
410-128356-15	MW-29-W-230524	Total/NA	Water	8260D/UST	
410-128356-16	D-01-W-230524	Total/NA	Water	8260D/UST	
410-128356-17	D-06-W-230524	Total/NA	Water	8260D/UST	
410-128356-18	DUP-1-WD-230524	Total/NA	Water	8260D/UST	
410-128356-19	MW-13-W-230524	Total/NA	Water	8260D/UST	
410-128356-20	MW-18-W-230524	Total/NA	Water	8260D/UST	
410-128356-21	TB-2-T-230525	Total/NA	Water	8260D/UST	
MB 410-383014/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-383014/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-383014/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 383448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-1	MW-38-W-230525	Total/NA	Water	8260D/UST	
410-128356-2	MW-39-W-230525	Total/NA	Water	8260D/UST	
410-128356-3	D-26-W-230525	Total/NA	Water	8260D/UST	
410-128356-4	D-27-W-230525	Total/NA	Water	8260D/UST	
MB 410-383448/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-383448/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-383448/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-128356-3 MS	D-26-W-230525	Total/NA	Water	8260D/UST	
410-128356-3 MSD	D-26-W-230525	Total/NA	Water	8260D/UST	

Analysis Batch: 383450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-5	D-22-W-230525	Total/NA	Water	8260D/UST	
410-128356-6	MW-37-W-230525	Total/NA	Water	8260D/UST	
410-128356-7	MW-34-W-230525	Total/NA	Water	8260D/UST	
410-128356-8	D-25-W-230525	Total/NA	Water	8260D/UST	
410-128356-9	D-24-W-230525	Total/NA	Water	8260D/UST	
410-128356-10	D-10-W-230525	Total/NA	Water	8260D/UST	
410-128356-11	MW-36-W-230525	Total/NA	Water	8260D/UST	
410-128356-12	MW-25-W-230525	Total/NA	Water	8260D/UST	
MB 410-383450/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-383450/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-383450/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-128356-7 MS	MW-34-W-230525	Total/NA	Water	8260D/UST	
410-128356-7 MSD	MW-34-W-230525	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 382955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-1	MW-38-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-2	MW-39-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-4	D-27-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-5	D-22-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-14	D-15-W-230524	Total/NA	Water	NWTPH-Gx	
410-128356-15	MW-29-W-230524	Total/NA	Water	NWTPH-Gx	
410-128356-16	D-01-W-230524	Total/NA	Water	NWTPH-Gx	

GC VOA (Continued)

Analysis Batch: 382955 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-17	D-06-W-230524	Total/NA	Water	NWTPH-Gx	
410-128356-18	DUP-1-WD-230524	Total/NA	Water	NWTPH-Gx	
410-128356-19	MW-13-W-230524	Total/NA	Water	NWTPH-Gx	
410-128356-20	MW-18-W-230524	Total/NA	Water	NWTPH-Gx	
MB 410-382955/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-382955/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-382955/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 383454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-3	D-26-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-6	MW-37-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-7	MW-34-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-8	D-25-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-9	D-24-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-10	D-10-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-11	MW-36-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-12	MW-25-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-21	TB-2-T-230525	Total/NA	Water	NWTPH-Gx	
MB 410-383454/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-383454/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-383454/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-128356-3 MS	D-26-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-3 MSD	D-26-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-7 MS	MW-34-W-230525	Total/NA	Water	NWTPH-Gx	
410-128356-7 MSD	MW-34-W-230525	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 383083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-14	D-15-W-230524	Total/NA	Water	3510C	
410-128356-15	MW-29-W-230524	Total/NA	Water	3510C	
410-128356-16	D-01-W-230524	Total/NA	Water	3510C	
410-128356-17	D-06-W-230524	Total/NA	Water	3510C	
410-128356-18	DUP-1-WD-230524	Total/NA	Water	3510C	
410-128356-19	MW-13-W-230524	Total/NA	Water	3510C	
410-128356-20	MW-18-W-230524	Total/NA	Water	3510C	
MB 410-383083/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-383083/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-383083/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 383370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-14	D-15-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-15	MW-29-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-16	D-01-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-17	D-06-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-18	DUP-1-WD-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-19	MW-13-W-230524	Total/NA	Water	NWTPH-Dx	383083
410-128356-20	MW-18-W-230524	Total/NA	Water	NWTPH-Dx	383083

GC Semi VOA (Continued)

Analysis Batch: 383370 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-383083/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	383083
LCS 410-383083/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	383083
LCSD 410-383083/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	383083

Prep Batch: 383525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-1	MW-38-W-230525	Total/NA	Water	3510C	
410-128356-2	MW-39-W-230525	Total/NA	Water	3510C	
410-128356-3	D-26-W-230525	Total/NA	Water	3510C	
410-128356-4	D-27-W-230525	Total/NA	Water	3510C	
410-128356-5	D-22-W-230525	Total/NA	Water	3510C	
410-128356-6	MW-37-W-230525	Total/NA	Water	3510C	
410-128356-7	MW-34-W-230525	Total/NA	Water	3510C	
410-128356-8	D-25-W-230525	Total/NA	Water	3510C	
410-128356-9	D-24-W-230525	Total/NA	Water	3510C	
410-128356-10	D-10-W-230525	Total/NA	Water	3510C	
410-128356-11	MW-36-W-230525	Total/NA	Water	3510C	
410-128356-12	MW-25-W-230525	Total/NA	Water	3510C	
MB 410-383525/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-383525/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-128356-3 MS	D-26-W-230525	Total/NA	Water	3510C	
410-128356-3 MSD	D-26-W-230525	Total/NA	Water	3510C	
410-128356-7 MS	MW-34-W-230525	Total/NA	Water	3510C	
410-128356-7 MSD	MW-34-W-230525	Total/NA	Water	3510C	

Analysis Batch: 383836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128356-1	MW-38-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-2	MW-39-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-3	D-26-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-4	D-27-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-5	D-22-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-6	MW-37-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-7	MW-34-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-8	D-25-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-9	D-24-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-10	D-10-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-11	MW-36-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-12	MW-25-W-230525	Total/NA	Water	NWTPH-Dx	383525
MB 410-383525/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	383525
LCS 410-383525/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	383525
410-128356-3 MS	D-26-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-3 MSD	D-26-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-7 MS	MW-34-W-230525	Total/NA	Water	NWTPH-Dx	383525
410-128356-7 MSD	MW-34-W-230525	Total/NA	Water	NWTPH-Dx	383525

Lab Chronicle

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-38-W-230525
Lab Sample ID: 410-128356-1
Date Collected: 05/25/23 08:39
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383448	PV7W	ELLE	06/06/23 15:21
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 18:11
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 13:11

Client Sample ID: MW-39-W-230525
Lab Sample ID: 410-128356-2
Date Collected: 05/25/23 08:40
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383448	PV7W	ELLE	06/06/23 15:45
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 18:36
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 13:34

Client Sample ID: D-26-W-230525
Lab Sample ID: 410-128356-3
Date Collected: 05/25/23 09:38
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383448	PV7W	ELLE	06/06/23 16:09
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 20:10
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 13:57

Client Sample ID: D-27-W-230525
Lab Sample ID: 410-128356-4
Date Collected: 05/25/23 09:45
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383448	PV7W	ELLE	06/06/23 17:21
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 20:18
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 15:05

Client Sample ID: D-22-W-230525
Lab Sample ID: 410-128356-5
Date Collected: 05/25/23 11:10
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 20:43
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 15:28

Lab Chronicle

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-37-W-230525
Lab Sample ID: 410-128356-6
Date Collected: 05/25/23 11:22
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 15:56
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 21:27
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 15:50

Client Sample ID: MW-34-W-230525
Lab Sample ID: 410-128356-7
Date Collected: 05/25/23 12:10
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 16:20
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/07/23 01:18
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 16:36

Client Sample ID: D-25-W-230525
Lab Sample ID: 410-128356-8
Date Collected: 05/25/23 12:16
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 17:32
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 21:53
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 17:44

Client Sample ID: D-24-W-230525
Lab Sample ID: 410-128356-9
Date Collected: 05/25/23 13:37
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 17:56
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 22:19
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 18:07

Client Sample ID: D-10-W-230525
Lab Sample ID: 410-128356-10
Date Collected: 05/25/23 13:55
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 18:20
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 22:44
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 18:29

Lab Chronicle

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-36-W-230525
Lab Sample ID: 410-128356-11
Date Collected: 05/25/23 14:47
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 18:44
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 23:10
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 18:52

Client Sample ID: MW-25-W-230525
Lab Sample ID: 410-128356-12
Date Collected: 05/25/23 15:05
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383450	PV7W	ELLE	06/06/23 19:08
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 23:35
Total/NA	Prep	3510C			383525	T9CY	ELLE	06/06/23 15:32
Total/NA	Analysis	NWTPH-Dx		1	383836	IUSB	ELLE	06/07/23 19:15

Client Sample ID: D-15-W-230524
Lab Sample ID: 410-128356-14
Date Collected: 05/24/23 13:00
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 17:34
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 21:09
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 19:01

Client Sample ID: MW-29-W-230524
Lab Sample ID: 410-128356-15
Date Collected: 05/24/23 11:10
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 17:58
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 21:35
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 19:24

Client Sample ID: D-01-W-230524
Lab Sample ID: 410-128356-16
Date Collected: 05/24/23 14:15
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 18:22
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 22:00
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 19:46

Lab Chronicle

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-06-W-230524
Lab Sample ID: 410-128356-17
Date Collected: 05/24/23 14:35
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 18:46
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 23:17
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 20:09

Client Sample ID: DUP-1-WD-230524
Lab Sample ID: 410-128356-18
Date Collected: 05/24/23 12:00
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 19:10
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/05/23 23:43
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 20:32

Client Sample ID: MW-13-W-230524
Lab Sample ID: 410-128356-19
Date Collected: 05/24/23 15:35
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 19:34
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/06/23 00:08
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 20:54

Client Sample ID: MW-18-W-230524
Lab Sample ID: 410-128356-20
Date Collected: 05/24/23 16:10
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 19:58
Total/NA	Analysis	NWTPH-Gx		1	382955	MXX6	ELLE	06/06/23 00:34
Total/NA	Prep	3510C			383083	T9CY	ELLE	06/05/23 15:36
Total/NA	Analysis	NWTPH-Dx		1	383370	IUSB	ELLE	06/06/23 21:17

Client Sample ID: TB-2-T-230525
Lab Sample ID: 410-128356-21
Date Collected: 05/25/23 00:00
Matrix: Water
Date Received: 05/26/23 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	383014	UKAD	ELLE	06/05/23 15:58
Total/NA	Analysis	NWTPH-Gx		1	383454	MXX6	ELLE	06/06/23 19:19

Laboratory References:
ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	07-17-23

Method Summary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
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 Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-128356-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-128356-1	MW-38-W-230525	Water	05/25/23 08:39	05/26/23 09:45
410-128356-2	MW-39-W-230525	Water	05/25/23 08:40	05/26/23 09:45
410-128356-3	D-26-W-230525	Water	05/25/23 09:38	05/26/23 09:45
410-128356-4	D-27-W-230525	Water	05/25/23 09:45	05/26/23 09:45
410-128356-5	D-22-W-230525	Water	05/25/23 11:10	05/26/23 09:45
410-128356-6	MW-37-W-230525	Water	05/25/23 11:22	05/26/23 09:45
410-128356-7	MW-34-W-230525	Water	05/25/23 12:10	05/26/23 09:45
410-128356-8	D-25-W-230525	Water	05/25/23 12:16	05/26/23 09:45
410-128356-9	D-24-W-230525	Water	05/25/23 13:37	05/26/23 09:45
410-128356-10	D-10-W-230525	Water	05/25/23 13:55	05/26/23 09:45
410-128356-11	MW-36-W-230525	Water	05/25/23 14:47	05/26/23 09:45
410-128356-12	MW-25-W-230525	Water	05/25/23 15:05	05/26/23 09:45
410-128356-14	D-15-W-230524	Water	05/24/23 13:00	05/26/23 09:45
410-128356-15	MW-29-W-230524	Water	05/24/23 11:10	05/26/23 09:45
410-128356-16	D-01-W-230524	Water	05/24/23 14:15	05/26/23 09:45
410-128356-17	D-06-W-230524	Water	05/24/23 14:35	05/26/23 09:45
410-128356-18	DUP-1-WD-230524	Water	05/24/23 12:00	05/26/23 09:45
410-128356-19	MW-13-W-230524	Water	05/24/23 15:35	05/26/23 09:45
410-128356-20	MW-18-W-230524	Water	05/24/23 16:10	05/26/23 09:45
410-128356-21	TB-2-T-230525	Water	05/25/23 00:00	05/26/23 09:45

Eurc
2425 I
Lanca
Phone

ne

Chain of Custody Record

eurofins | Environment Testing

410-128356 Chain of Custody

Clien

Client Contact: Shira DeGrood	Sampler: E Richardson	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-88427-22634.1
Company: AECOM	Phone:	E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Address: 300 Lakeside Drive Suite 400	PWSID:	Due Date Requested:		Job #:
City: Oakland		TAT Requested (days):		
State, Zip: CA, 94612		Compliance Project: Δ Yes Δ No		
Phone:		PO #: 152363		
Email: shira.degrood@aecom.com		WO #: 60701804		
Project Name: CEMREC Legacy Sites – Tacoma		Project #: 41014252		
Site:		SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Dx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	Total Number of containers	Special Instructions/Note:
		Preservation Code:					A	A	A		
MW-38-W-230525	5/25/23	0839	G	W			X	X	X	8	
MW-39-W-230525		0840								8	
D-20-W-230525		0938								24	MS/MSD
D-17-W-230525		0945								8	
D-22-W-230525		1110								8	
MW-37-W-230525		1122								8	
MW-34-W-230525		1210								24	MS/MSD
D-25-W-230525		1216								8	
D-24-W-230525		1337								8	
D-10-W-230525		1355								8	
MW-36-W-230525		1447								8	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5/25/23 1645	Company: AECOM	Received by: / Date/Time: / Company:
Relinquished by:	Date/Time:	Company:	Received by: / Date/Time: / Company:
Relinquished by:	Date/Time:	Company:	Received by: / Date/Time: 5-26-23 945 / Company: ETC

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Rep 1.4/1.4 Rep 0.5/6.5 Rep 0.7/0.7

Ver: 06/08/2021

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
Client Contact: Shira DeGrood (shira.degrood@aecom.com); Christina Wheeler (christina.wheeler@aecom.com)	E Richardson	Amek Carter (loran.carter@et.eurofinsus.com)		
Company: AECOM	Phone: 971 323 6281; 360 608 3212	E-Mail:	State of Origin:	Page: Page 2
Address: 888 SW 5th Ave	PWSID	Analysis Requested		Job #
City: Portland	Due Date Requested:			Preservation Codes: A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify); Other:
State, Zip: Oregon 97204	TAT Requested (days): 10 business days			
Phone: 971 323 6262	Compliance Project: ∆ Yes ∆ No			
Email	PO #: 152363			
Project Name: CEMREC Legacy Sites - Tacoma	WO #			
AECOM Project #: 60701804	Project #:			
	SSOW#			

Sample Identification (example, MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-25-W-230525	5/25/23	1505	G	W	N		X	X	X		
D-12-W-230524	5/24/23	1010	G				X	X	X		
~~MW-29-W-230524~~		~~1110~~									
~~RMW-01-W-230524~~		~~1115~~									
D-15-W-230524	5/24/23	1300	G				X	X	X		
MW-29-W-230524		1110									
D-01-W-230524		1415									
D-06-W-230524		1435									
DUP-1-WD-230524		1200									
MW-13-W-230524		1535									
MW-18-W-230524		1610					X	X	X		
TB-2-T-230525	5/25/23						X		X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/25/23 @ 1645		[signature]		
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]					
Relinquished by	Date/Time	Company	Received by: AMC	5-26-23 9:15	EMS

Custody Seals Intact: ∆ Yes ∆ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.4/1.4 IR 0.5/0.5 IR 0.7/0.5 IR

Ver: 01/16/2019

Eurc
2425 I
Lanca
Phone

410-128356 Chain of Custody

ne

Chain of Custody Record

eurofins

Client:	Sampler: E Richardson	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-88427-22634.1
Client Contact: Shira DeGrood	Phone:	E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: AECOM	PWSID:			Job #:
Address: 300 Lakeside Drive Suite 400	Due Date Requested:			
City: Oakland	TAT Requested (days):			
State, Zip: CA, 94612	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 152363			
Email: shira.degrood@aecom.com	WO #: 60701804			
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Dx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A		
MW-38-W-230525	5/25/23	0839	G	W			X	X	X	3	
MW-39-W-230525		0840								3	
D-20-W-230525		0938								3	
D-17-W-230525		0945								4	MS/MSD
D-22-W-230525		1110								3	
MW-37-W-230525		1122								3	
MW-34-W-230525		1210								3	
D-25-W-230525		1216								4	MS/MSD
D-24-W-230525		1337								3	
D-10-W-230525		1355								3	
MW-36-W-230525		1447								3	

D-27-W-230525

sample name update - CW 8/8/23

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by		Date:	Time		Method of Shipment:	
Relinquished by	Date/Time: 5/25/23 1645	Company: AECOM	Received by	Date/Time		Company
Relinquished by	Date/Time	Company	Received by	Date/Time		Company
Relinquished by	Date/Time	Company	Received by	Date/Time: 5-26-23 945		Company: EHC

Custody Seals Intact: Δ Yes Δ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks: Rep 1.4/1.4 Rep 0.5/0.5 Rep 0.7/0.7

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-128356-1

Login Number: 128356
List Number: 1
Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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.
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Bradley Wynne
AECOM
13355 Noel Road
Suite 400
Dallas, Texas 75240

Generated 9/26/2023 8:52:12 AM Revision 1

JOB DESCRIPTION

CEMREC Legacy Sites - Tacoma

JOB NUMBER

410-138623-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/26/2023 8:52:12 AM
Revision 1

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 8
Client Sample Results 11
Surrogate Summary 28
QC Sample Results 32
QC Association Summary 45
Lab Chronicle 52
Certification Summary 59
Method Summary 60
Sample Summary 61
Chain of Custody 62
Receipt Checklists 64

Definitions/Glossary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: AECOM
Project/Site: CEMREC Legacy Sites - Tacoma

Job ID: 410-138623-1

Job ID: 410-138623-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-138623-1

Revision
The report being provided is a revision of the original report sent on 8/29/2023. The report (revision 1) is being revised due to: Add Silica Gel labeling.

Receipt
The samples were received on 8/11/2023 10:00 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 2.0°C, 2.4°C, 2.6°C and 2.7°C

Receipt Exceptions
The container count for the following sample did not match what was listed on the Chain-of-Custody (COC): MW-30-W-230808 (410-138623-8).
The laboratory received 4 total containers, while the COC lists 3 total containers.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): D-18-W-230808 (410-138623-7). The container labels list DW-18, while the COC lists D-18. The COC was followed.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-26-W-230808 (410-138623-6). The container labels list 13:15 on 1 250ml HCl container, while the COC lists 13:10. The COC was followed.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-23-W-230808 (410-138623-5). The container labels list 11:35, while the COC lists 10:35. The COC was followed.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): D-08-W-230808 (410-138623-4). The container labels list DW-08, while the COC lists D-08. The COC was followed.

GC/MS 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: The method blank for preparation batch 410-409930 and 410-410405 contained C24-C40 above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. D-10-W-230809 (410-138623-21)

Method NWTPH_Dx: Surrogate recovery was outside acceptance limits for the following sample duplicate (DU) sample: (410-138623-H-1-E DU). The parent sample's surrogate recovery was within limits. The DU sample has been qualified and reported.

Method NWTPH_Dx: The surrogate recovery for the blank associated with preparation batch 410-409063 and 410-409748 and analytical batch 410-409852 was outside the lower control limits.

Method NWTPH_Dx: Samples MW-31-W-230808 (410-138623-10) and D-09-W-230808 (410-138623-11) were re-extracted due to possible silica gel contamination resulting in detections for the C24-C40 range. Samples were re-extracted within method hold time. The MB associated with the re-extract samples had low surrogate recovery.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Job ID: 410-138623-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Detection Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: MW-21-W-230807 — Lab Sample ID: 410-138623-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	500		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	280		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-12-W-230808 — Lab Sample ID: 410-138623-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	580		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	5500		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	660		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-02A-W-230808 — Lab Sample ID: 410-138623-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	75	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1200		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	390		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-08-W-230808 — Lab Sample ID: 410-138623-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	62	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1200		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	290		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-23-W-230808 — Lab Sample ID: 410-138623-5

No Detections.

Client Sample ID: MW-26-W-230808 — Lab Sample ID: 410-138623-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1500		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	470		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-18-W-230808 — Lab Sample ID: 410-138623-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	870		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	300		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-30-W-230808 — Lab Sample ID: 410-138623-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	85	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	6300		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	2200		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-17-W-230808 — Lab Sample ID: 410-138623-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	99	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-31-W-230808 — Lab Sample ID: 410-138623-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	68	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-31-W-230808 (Continued) — Lab Sample ID: 410-138623-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C24-C40 with Silica Gel clean up	480	cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-09-W-230808 — Lab Sample ID: 410-138623-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	51	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2300		100	45	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	130	cn	100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	710		250	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	2000	cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-24-W-230808 — Lab Sample ID: 410-138623-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	870		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	230	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-19-W-230808 — Lab Sample ID: 410-138623-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	380		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	130	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-39-W-230809 — Lab Sample ID: 410-138623-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	180	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	5200		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	760		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-27-W-230809 — Lab Sample ID: 410-138623-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	51	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1700		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	410		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RMW-01-W-230809 — Lab Sample ID: 410-138623-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	370		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	400		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-12-W-230809 — Lab Sample ID: 410-138623-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	280		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	190	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-29-W-230809 — Lab Sample ID: 410-138623-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.35	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	640		250	43	ug/L	1		NWTPH-Gx	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-29-W-230809 (Continued) — Lab Sample ID: 410-138623-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	7000		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	560		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-15-W-230809 — Lab Sample ID: 410-138623-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	67	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1400		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	270		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-22-W-230809 — Lab Sample ID: 410-138623-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	72	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	330		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-10-W-230809 — Lab Sample ID: 410-138623-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	110	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2200		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	230	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-34-W-230809 — Lab Sample ID: 410-138623-22

No Detections.

Client Sample ID: MW-25-W-230809 — Lab Sample ID: 410-138623-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.4		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Ethylbenzene	3.3		1.0	0.40	ug/L	1		8260D/UST	Total/NA
Toluene	0.88	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1700		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	340		100	45	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	47	J	100	45	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-1-T-20230807 — Lab Sample ID: 410-138623-24

No Detections.

Client Sample ID: TB-2-T-20230807 — Lab Sample ID: 410-138623-25

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-21-W-230807
Lab Sample ID: 410-138623-1
Date Collected: 08/07/23 15:35
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/17/23 16:26	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/17/23 16:26	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/17/23 16:26	1
Toluene	ND		1.0	0.30	ug/L			08/17/23 16:26	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/17/23 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/17/23 16:26*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/17/23 16:26*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/17/23 16:26*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/17/23 16:26*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/21/23 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/21/23 14:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**500**		100	45	ug/L		08/16/23 16:01	08/17/23 13:20	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 16:34	1
C24-C40	**280**		250	100	ug/L		08/16/23 16:01	08/17/23 13:20	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*08/16/23 16:01*	*08/17/23 13:20*	*1*
o- terphenyl (Surr)	*51*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 16:34*	*1*

Client Sample ID: MW-12-W-230808
Lab Sample ID: 410-138623-2
Date Collected: 08/08/23 10:25
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 20:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 20:48	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 20:48	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 20:48	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/18/23 20:48*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/18/23 20:48*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/18/23 20:48*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*08/18/23 20:48*	*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	43	ug/L			08/16/23 03:44	1

Client Sample ID: MW-12-W-230808
Lab Sample ID: 410-138623-2
Date Collected: 08/08/23 10:25
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/16/23 03:44*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**5500**		100	47	ug/L		08/16/23 16:01	08/17/23 14:06	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	47	ug/L		08/16/23 16:07	08/18/23 17:20	1
C24-C40	**660**		260	100	ug/L		08/16/23 16:01	08/17/23 14:06	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/16/23 16:07	08/18/23 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*64*		*50 - 150*	*08/16/23 16:01*	*08/17/23 14:06*	*1*
o- terphenyl (Surr)	*52*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 17:20*	*1*

Client Sample ID: D-02A-W-230808
Lab Sample ID: 410-138623-3
Date Collected: 08/08/23 10:29
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 21:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 21:12	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 21:12	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 21:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*08/18/23 21:12*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/18/23 21:12*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*08/18/23 21:12*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/18/23 21:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**75**	**J**	250	43	ug/L			08/16/23 04:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/16/23 04:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**		100	45	ug/L		08/16/23 16:01	08/17/23 14:28	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 17:43	1
C24-C40	**390**		250	100	ug/L		08/16/23 16:01	08/17/23 14:28	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*70*		*50 - 150*	*08/16/23 16:01*	*08/17/23 14:28*	*1*
o- terphenyl (Surr)	*68*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 17:43*	*1*

Client Sample ID: D-08-W-230808
Lab Sample ID: 410-138623-4
Date Collected: 08/08/23 10:33
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 21:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 21:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 21:36	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 21:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/18/23 21:36*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/18/23 21:36*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*08/18/23 21:36*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/18/23 21:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**62**	**J**	250	43	ug/L			08/16/23 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/16/23 23:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**		100	45	ug/L		08/16/23 16:01	08/17/23 14:52	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 18:06	1
C24-C40	**290**		250	100	ug/L		08/16/23 16:01	08/17/23 14:52	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*68*		*50 - 150*	*08/16/23 16:01*	*08/17/23 14:52*	*1*
o- terphenyl (Surr)	*69*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 18:06*	*1*

Client Sample ID: MW-23-W-230808
Lab Sample ID: 410-138623-5
Date Collected: 08/08/23 10:35
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/21/23 22:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 22:08	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 22:08	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 22:08	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 22:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*08/21/23 22:08*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/21/23 22:08*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*08/21/23 22:08*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*08/21/23 22:08*	*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	43	ug/L			08/17/23 00:13	1

Client Sample ID: MW-23-W-230808
Lab Sample ID: 410-138623-5
Date Collected: 08/08/23 10:35
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 00:13*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		08/16/23 16:01	08/17/23 15:14	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	47	ug/L		08/16/23 16:07	08/18/23 18:29	1
C24-C40	ND		260	100	ug/L		08/16/23 16:01	08/17/23 15:14	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/16/23 16:07	08/18/23 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*77*		*50 - 150*	*08/16/23 16:01*	*08/17/23 15:14*	*1*
o- terphenyl (Surr)	*71*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 18:29*	*1*

Client Sample ID: MW-26-W-230808
Lab Sample ID: 410-138623-6
Date Collected: 08/08/23 13:10
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 18:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 18:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 18:00	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 18:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/18/23 18:00*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/18/23 18:00*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*08/18/23 18:00*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*08/18/23 18:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/17/23 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 00:38*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1500**		100	46	ug/L		08/16/23 16:01	08/17/23 15:37	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/22/23 16:13	08/26/23 02:30	1
C24-C40	**470**		260	100	ug/L		08/16/23 16:01	08/17/23 15:37	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/22/23 16:13	08/26/23 02:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*71*		*50 - 150*	*08/16/23 16:01*	*08/17/23 15:37*	*1*
o- terphenyl (Surr)	*76*		*50 - 150*	*08/22/23 16:13*	*08/26/23 02:30*	*1*

Client Sample ID: D-18-W-230808
Lab Sample ID: 410-138623-7
Date Collected: 08/08/23 13:13
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 17:25	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 17:25	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 17:25	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 17:25	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 17:25*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 17:25*	*1*
Dibromofluoromethane (Surr)	*91*		*80 - 120*		*08/18/23 17:25*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/18/23 17:25*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/17/23 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/17/23 01:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**870**		100	45	ug/L		08/16/23 16:01	08/17/23 16:00	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 19:15	1
C24-C40	**300**		250	100	ug/L		08/16/23 16:01	08/17/23 16:00	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*08/16/23 16:01*	*08/17/23 16:00*	*1*
o- terphenyl (Surr)	*52*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 19:15*	*1*

Client Sample ID: MW-30-W-230808
Lab Sample ID: 410-138623-8
Date Collected: 08/08/23 14:44
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 17:49	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 17:49	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 17:49	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 17:49	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 17:49*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*08/18/23 17:49*	*1*
Dibromofluoromethane (Surr)	*85*		*80 - 120*		*08/18/23 17:49*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 17:49*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**85**	**J**	250	43	ug/L			08/17/23 01:29	1

Client Sample ID: MW-30-W-230808
Lab Sample ID: 410-138623-8
Date Collected: 08/08/23 14:44
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 01:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	6300		100	45	ug/L		08/17/23 07:57	08/18/23 23:13	1
C24-C40	2200		250	100	ug/L		08/17/23 07:57	08/18/23 23:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*63*		*50 - 150*	*08/17/23 07:57*	*08/18/23 23:13*	*1*

Client Sample ID: D-17-W-230808
Lab Sample ID: 410-138623-9
Date Collected: 08/08/23 14:47
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 18:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 18:12	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 18:12	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 18:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/18/23 18:12*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 18:12*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/18/23 18:12*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 18:12*	*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	43	ug/L			08/17/23 01:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*08/17/23 01:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	99	J	100	46	ug/L		08/16/23 16:01	08/17/23 16:23	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/18/23 19:38	1
C24-C40	ND		250	100	ug/L		08/16/23 16:01	08/17/23 16:23	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*72*		*50 - 150*	*08/16/23 16:01*	*08/17/23 16:23*	*1*
o- terphenyl (Surr)	*54*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 19:38*	*1*

Client Sample ID: MW-31-W-230808
Lab Sample ID: 410-138623-10
Date Collected: 08/08/23 15:53
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 18:36	1

Client Sample ID: MW-31-W-230808
Lab Sample ID: 410-138623-10
Date Collected: 08/08/23 15:53
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 18:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 18:36	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 18:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 18:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 18:36*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*08/18/23 18:36*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 18:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**68**	**J**	100	46	ug/L		08/16/23 16:01	08/17/23 16:46	1
C12-C24 with Silica Gel clean up	ND	cn	100	45	ug/L		08/22/23 16:13	08/26/23 02:53	1
C24-C40	ND		260	100	ug/L		08/16/23 16:01	08/17/23 16:46	1
C24-C40 with Silica Gel clean up	**480**	**cn**	250	100	ug/L		08/22/23 16:13	08/26/23 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*08/16/23 16:01*	*08/17/23 16:46*	*1*
o- terphenyl (Surr)	*72*	*cn*	*50 - 150*	*08/22/23 16:13*	*08/26/23 02:53*	*1*

Client Sample ID: D-09-W-230808
Lab Sample ID: 410-138623-11
Date Collected: 08/08/23 16:06
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 19:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 19:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 19:00	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 19:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/18/23 19:00*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/18/23 19:00*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/18/23 19:00*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 19:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**51**	**J**	250	43	ug/L			08/17/23 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*08/17/23 03:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2300**		100	45	ug/L		08/16/23 16:01	08/17/23 17:31	1
C12-C24 with Silica Gel clean up	**130**	**cn**	100	45	ug/L		08/22/23 16:13	08/26/23 03:16	1
C24-C40	**710**		250	100	ug/L		08/16/23 16:01	08/17/23 17:31	1

Client Sample ID: D-09-W-230808
Lab Sample ID: 410-138623-11
Date Collected: 08/08/23 16:06
Matrix: Water
Date Received: 08/11/23 10:00

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C24-C40 with Silica Gel clean up	**2000**	**cn**	250	100	ug/L		08/22/23 16:13	08/26/23 03:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*67*		*50 - 150*	*08/16/23 16:01*	*08/17/23 17:31*	*1*
o- terphenyl (Surr)	*79*	*cn*	*50 - 150*	*08/22/23 16:13*	*08/26/23 03:16*	*1*

Client Sample ID: MW-24-W-230808
Lab Sample ID: 410-138623-12
Date Collected: 08/08/23 16:53
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 19:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 19:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 19:24	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 19:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*08/18/23 19:24*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 19:24*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/18/23 19:24*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 19:24*	*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	43	ug/L			08/17/23 03:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*08/17/23 03:37*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**870**		100	46	ug/L		08/16/23 16:01	08/17/23 17:54	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/18/23 21:10	1
C24-C40	**230**	**J**	250	100	ug/L		08/16/23 16:01	08/17/23 17:54	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*08/16/23 16:01*	*08/17/23 17:54*	*1*
o- terphenyl (Surr)	*63*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 21:10*	*1*

Client Sample ID: D-19-W-230808
Lab Sample ID: 410-138623-13
Date Collected: 08/08/23 17:10
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 19:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 19:48	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 19:48	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 19:48	1

Client Sample ID: D-19-W-230808
Lab Sample ID: 410-138623-13
Date Collected: 08/08/23 17:10
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*80 - 120*		*08/18/23 19:48*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*08/18/23 19:48*	*1*
Dibromofluoromethane (Surr)	*85*		*80 - 120*		*08/18/23 19:48*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/18/23 19:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/17/23 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 04:02*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**380**		100	46	ug/L		08/16/23 16:01	08/17/23 18:17	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/18/23 21:41	1
C24-C40	**130**	**J**	250	100	ug/L		08/16/23 16:01	08/17/23 18:17	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*08/16/23 16:01*	*08/17/23 18:17*	*1*
o- terphenyl (Surr)	*68*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 21:41*	*1*

Client Sample ID: MW-39-W-230809
Lab Sample ID: 410-138623-14
Date Collected: 08/09/23 09:23
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 20:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 20:12	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 20:12	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 20:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*08/18/23 20:12*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 20:12*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/18/23 20:12*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*08/18/23 20:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**180**	**J**	250	43	ug/L			08/17/23 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/17/23 04:28*	*1*

Client Sample ID: MW-39-W-230809
Lab Sample ID: 410-138623-14
Date Collected: 08/09/23 09:23
Matrix: Water
Date Received: 08/11/23 10:00

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**5200**		100	45	ug/L		08/16/23 16:01	08/17/23 18:40	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 22:04	1
C24-C40	**760**		250	100	ug/L		08/16/23 16:01	08/17/23 18:40	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*58*		*50 - 150*	*08/16/23 16:01*	*08/17/23 18:40*	*1*
o- terphenyl (Surr)	*59*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 22:04*	*1*

Client Sample ID: D-27-W-230809
Lab Sample ID: 410-138623-15
Date Collected: 08/09/23 09:35
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 20:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 20:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 20:36	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 20:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/18/23 20:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 20:36*	*1*
Dibromofluoromethane (Surr)	*84*		*80 - 120*		*08/18/23 20:36*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/18/23 20:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**51**	**J**	250	43	ug/L			08/17/23 04:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*08/17/23 04:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1700**		100	46	ug/L		08/16/23 16:01	08/17/23 19:03	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/18/23 22:27	1
C24-C40	**410**		250	100	ug/L		08/16/23 16:01	08/17/23 19:03	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*68*		*50 - 150*	*08/16/23 16:01*	*08/17/23 19:03*	*1*
o- terphenyl (Surr)	*59*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 22:27*	*1*

Client Sample ID: RMW-01-W-230809
Lab Sample ID: 410-138623-16
Date Collected: 08/09/23 10:47
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 21:00	1

Client Sample ID: RMW-01-W-230809
Lab Sample ID: 410-138623-16
Date Collected: 08/09/23 10:47
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 21:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 21:00	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 21:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/18/23 21:00*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/18/23 21:00*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*08/18/23 21:00*	*1*
Toluene-d8 (Surr)	*111*		*80 - 120*		*08/18/23 21:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**370**		250	43	ug/L			08/17/23 05:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*08/17/23 05:19*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2900**		100	46	ug/L		08/16/23 16:01	08/17/23 19:26	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/18/23 22:50	1
C24-C40	**400**		260	100	ug/L		08/16/23 16:01	08/17/23 19:26	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/16/23 16:07	08/18/23 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*66*		*50 - 150*	*08/16/23 16:01*	*08/17/23 19:26*	*1*
o- terphenyl (Surr)	*70*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 22:50*	*1*

Client Sample ID: D-12-W-230809
Lab Sample ID: 410-138623-17
Date Collected: 08/09/23 11:05
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 21:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 21:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 21:24	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 21:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*80 - 120*		*08/18/23 21:24*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 21:24*	*1*
Dibromofluoromethane (Surr)	*84*		*80 - 120*		*08/18/23 21:24*	*1*
Toluene-d8 (Surr)	*110*		*80 - 120*		*08/18/23 21:24*	*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	43	ug/L			08/17/23 05:45	1

Client Sample ID: D-12-W-230809
Lab Sample ID: 410-138623-17
Date Collected: 08/09/23 11:05
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 05:45*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**280**		100	46	ug/L		08/16/23 16:01	08/17/23 19:49	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/22/23 16:13	08/26/23 03:38	1
C24-C40	**190**	**J**	260	100	ug/L		08/16/23 16:01	08/17/23 19:49	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/22/23 16:13	08/26/23 03:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*77*		*50 - 150*	*08/16/23 16:01*	*08/17/23 19:49*	*1*
o- terphenyl (Surr)	*68*		*50 - 150*	*08/22/23 16:13*	*08/26/23 03:38*	*1*

Client Sample ID: MW-29-W-230809
Lab Sample ID: 410-138623-18
Date Collected: 08/09/23 12:05
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.35**	**J**	1.0	0.30	ug/L			08/18/23 21:48	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 21:48	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 21:48	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 21:48	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 21:48*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/18/23 21:48*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/18/23 21:48*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/18/23 21:48*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**640**		250	43	ug/L			08/17/23 06:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/17/23 06:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**7000**		100	46	ug/L		08/16/23 16:01	08/17/23 20:12	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/22/23 16:13	08/26/23 04:01	1
C24-C40	**560**		250	100	ug/L		08/16/23 16:01	08/17/23 20:12	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/22/23 16:13	08/26/23 04:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*82*		*50 - 150*	*08/16/23 16:01*	*08/17/23 20:12*	*1*
o- terphenyl (Surr)	*77*		*50 - 150*	*08/22/23 16:13*	*08/26/23 04:01*	*1*

Client Sample ID: D-15-W-230809
Lab Sample ID: 410-138623-19
Date Collected: 08/09/23 12:06
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 22:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 22:12	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 22:12	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 22:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*08/18/23 22:12*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*08/18/23 22:12*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/18/23 22:12*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/18/23 22:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**67**	**J**	250	43	ug/L			08/17/23 06:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/17/23 06:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1400**		100	45	ug/L		08/16/23 16:01	08/17/23 20:35	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	45	ug/L		08/16/23 16:07	08/18/23 23:59	1
C24-C40	**270**		250	100	ug/L		08/16/23 16:01	08/17/23 20:35	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*08/16/23 16:01*	*08/17/23 20:35*	*1*
o- terphenyl (Surr)	*52*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 23:59*	*1*

Client Sample ID: D-22-W-230809
Lab Sample ID: 410-138623-20
Date Collected: 08/09/23 14:15
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 22:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 22:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 22:36	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 22:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 22:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/18/23 22:36*	*1*
Dibromofluoromethane (Surr)	*91*		*80 - 120*		*08/18/23 22:36*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/18/23 22:36*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**72**	**J**	250	43	ug/L			08/17/23 07:02	1

Client Sample ID: D-22-W-230809
Lab Sample ID: 410-138623-20
Date Collected: 08/09/23 14:15
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/17/23 07:02*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**330**		100	46	ug/L		08/16/23 16:01	08/17/23 20:58	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		08/16/23 16:07	08/19/23 00:21	1
C24-C40	ND		260	100	ug/L		08/16/23 16:01	08/17/23 20:58	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/16/23 16:07	08/19/23 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*08/16/23 16:01*	*08/17/23 20:58*	*1*
o- terphenyl (Surr)	*69*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/19/23 00:21*	*1*

Client Sample ID: D-10-W-230809
Lab Sample ID: 410-138623-21
Date Collected: 08/09/23 14:25
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 23:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 23:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 23:00	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 23:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*08/18/23 23:00*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*08/18/23 23:00*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/18/23 23:00*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*08/18/23 23:00*	*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	43	ug/L			08/17/23 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*105*		*50 - 150*		*08/17/23 16:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2200**		100	45	ug/L		08/17/23 07:54	08/18/23 11:59	1
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/17/23 07:54	08/21/23 18:27	1
C24-C40	**230**	**J**	250	100	ug/L		08/17/23 07:54	08/18/23 11:59	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/17/23 07:54	08/21/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*08/17/23 07:54*	*08/18/23 11:59*	*1*
o- terphenyl (Surr)	*85*		*50 - 150*	*08/17/23 07:54*	*08/21/23 18:27*	*1*

Client Sample ID: MW-34-W-230809
Lab Sample ID: 410-138623-22

Date Collected: 08/09/23 15:10
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/18/23 23:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 23:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 23:23	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 23:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*08/18/23 23:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/18/23 23:23*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/18/23 23:23*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*08/18/23 23:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/16/23 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/16/23 22:31*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		08/16/23 16:01	08/17/23 21:20	1
C12-C24 with Silica Gel clean up	ND	*1 F1 cn	100	47	ug/L		08/16/23 16:07	08/19/23 00:44	1
C24-C40	ND		260	100	ug/L		08/16/23 16:01	08/17/23 21:20	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/16/23 16:07	08/19/23 00:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*71*		*50 - 150*	*08/16/23 16:01*	*08/17/23 21:20*	*1*
o- terphenyl (Surr)	*63*	*cn*	*50 - 150*	*08/16/23 16:07*	*08/19/23 00:44*	*1*

Client Sample ID: MW-25-W-230809
Lab Sample ID: 410-138623-23

Date Collected: 08/09/23 15:33
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.4**		1.0	0.30	ug/L			08/19/23 00:35	1
Ethylbenzene	**3.3**		1.0	0.40	ug/L			08/19/23 00:35	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/23 00:35	1
Toluene	**0.88**	**J**	1.0	0.30	ug/L			08/19/23 00:35	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/19/23 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/19/23 00:35*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/19/23 00:35*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/19/23 00:35*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/19/23 00:35*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**1700**		250	43	ug/L			08/17/23 17:23	1

Client Sample ID: MW-25-W-230809
Lab Sample ID: 410-138623-23
Date Collected: 08/09/23 15:33
Matrix: Water
Date Received: 08/11/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*08/17/23 17:23*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**340**		100	45	ug/L		08/17/23 07:54	08/18/23 12:22	1
C12-C24 with Silica Gel clean up	**47**	**J**	100	45	ug/L		08/17/23 07:54	08/21/23 18:50	1
C24-C40	ND		250	100	ug/L		08/17/23 07:54	08/18/23 12:22	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/17/23 07:54	08/21/23 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*82*		*50 - 150*	*08/17/23 07:54*	*08/18/23 12:22*	*1*
o- terphenyl (Surr)	*71*		*50 - 150*	*08/17/23 07:54*	*08/21/23 18:50*	*1*

Client Sample ID: TB-1-T-20230807
Lab Sample ID: 410-138623-24
Date Collected: 08/07/23 00:00
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/17/23 15:14	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/17/23 15:14	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/17/23 15:14	1
Toluene	ND		1.0	0.30	ug/L			08/17/23 15:14	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/17/23 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/17/23 15:14*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/17/23 15:14*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/17/23 15:14*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/17/23 15:14*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/16/23 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*08/16/23 21:15*	*1*

Client Sample ID: TB-2-T-20230807
Lab Sample ID: 410-138623-25
Date Collected: 08/07/23 00:00
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - 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			08/17/23 15:38	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/17/23 15:38	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/17/23 15:38	1
Toluene	ND		1.0	0.30	ug/L			08/17/23 15:38	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/17/23 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/17/23 15:38*	*1*

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: TB-2-T-20230807
Lab Sample ID: 410-138623-25
Date Collected: 08/07/23 00:00
Matrix: Water
Date Received: 08/11/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/17/23 15:38*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/17/23 15:38*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/17/23 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	43	ug/L			08/17/23 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*08/17/23 16:05*	*1*

Surrogate Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites - Tacoma

Job ID: 410-138623-1

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-138623-1	MW-21-W-230807	85	100	96	103
410-138623-2	MW-12-W-230808	86	102	100	105
410-138623-3	D-02A-W-230808	92	100	107	97
410-138623-4	D-08-W-230808	86	99	107	103
410-138623-5	MW-23-W-230808	94	98	98	94
410-138623-6	MW-26-W-230808	86	100	111	96
410-138623-7	D-18-W-230808	87	97	91	102
410-138623-8	MW-30-W-230808	87	107	85	101
410-138623-9	D-17-W-230808	88	97	93	101
410-138623-10	MW-31-W-230808	87	97	92	101
410-138623-11	D-09-W-230808	88	98	93	101
410-138623-12	MW-24-W-230808	92	97	97	101
410-138623-13	D-19-W-230808	80	104	85	102
410-138623-14	MW-39-W-230809	92	97	97	95
410-138623-15	D-27-W-230809	84	97	84	103
410-138623-16	RMW-01-W-230809	86	98	92	111
410-138623-17	D-12-W-230809	81	97	84	110
410-138623-18	MW-29-W-230809	87	98	93	101
410-138623-19	D-15-W-230809	94	105	100	103
410-138623-20	D-22-W-230809	87	97	91	102
410-138623-21	D-10-W-230809	92	90	99	93
410-138623-22	MW-34-W-230809	92	96	99	94
410-138623-22 MS	MW-34-W-230809	84	99	85	95
410-138623-22 MSD	MW-34-W-230809	89	98	83	101
410-138623-23	MW-25-W-230809	88	95	93	101
410-138623-24	TB-1-T-20230807	88	100	99	104
410-138623-25	TB-2-T-20230807	86	100	96	104
LCS 410-409488/4	Lab Control Sample	89	100	98	105
LCS 410-409976/4	Lab Control Sample	92	93	97	104
LCS 410-409978/4	Lab Control Sample	95	99	91	111
LCS 410-410671/4	Lab Control Sample	90	99	92	103
LCSD 410-409488/5	Lab Control Sample Dup	89	99	98	104
LCSD 410-409976/5	Lab Control Sample Dup	80	99	90	103
LCSD 410-409978/5	Lab Control Sample Dup	96	99	97	93
LCSD 410-410671/5	Lab Control Sample Dup	91	98	93	104
MB 410-409488/6	Method Blank	87	100	98	104
MB 410-409976/7	Method Blank	85	91	94	105
MB 410-409978/6	Method Blank	87	96	100	93
MB 410-410671/6	Method Blank	88	96	93	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)										
Lab Sample ID	Client Sample ID	TFT-F1 (50-150)										
410-138623-1	MW-21-W-230807	96										
410-138623-2	MW-12-W-230808	96										
410-138623-3	D-02A-W-230808	97										
410-138623-4	D-08-W-230808	97										
410-138623-5	MW-23-W-230808	98										
410-138623-6	MW-26-W-230808	98										
410-138623-7	D-18-W-230808	97										
410-138623-8	MW-30-W-230808	98										
410-138623-9	D-17-W-230808	100										
410-138623-11	D-09-W-230808	99										
410-138623-12	MW-24-W-230808	95										
410-138623-13	D-19-W-230808	98										
410-138623-14	MW-39-W-230809	96										
410-138623-15	D-27-W-230809	94										
410-138623-16	RMW-01-W-230809	95										
410-138623-17	D-12-W-230809	98										
410-138623-18	MW-29-W-230809	98										
410-138623-19	D-15-W-230809	97										
410-138623-20	D-22-W-230809	96										
410-138623-21	D-10-W-230809	105										
410-138623-22	MW-34-W-230809	96										
410-138623-22 MS	MW-34-W-230809	90										
410-138623-22 MSD	MW-34-W-230809	91										
410-138623-23	MW-25-W-230809	101										
410-138623-24	TB-1-T-20230807	99										
410-138623-25	TB-2-T-20230807	101										
LCS 410-408526/6	Lab Control Sample	91										
LCS 410-409090/6	Lab Control Sample	91										
LCS 410-409477/6	Lab Control Sample	92										
LCS 410-410525/6	Lab Control Sample	90										
LCSD 410-408526/7	Lab Control Sample Dup	89										
LCSD 410-409090/7	Lab Control Sample Dup	91										
LCSD 410-409477/7	Lab Control Sample Dup	93										
LCSD 410-410525/7	Lab Control Sample Dup	90										
MB 410-408526/10	Method Blank	98										
MB 410-409090/5	Method Blank	98										
MB 410-409477/5	Method Blank	100										
MB 410-410525/5	Method Blank	97										

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)										
Lab Sample ID	Client Sample ID	OTP (50-150)										
410-138623-1	MW-21-W-230807	72										
410-138623-1	MW-21-W-230807	51 cn										
410-138623-1 DU	MW-21-W-230807	78										

Surrogate Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTP (50-150)						
410-138623-1 DU	MW-21-W-230807	43 S1- cn						
410-138623-2	MW-12-W-230808	64						
410-138623-2	MW-12-W-230808	52 cn						
410-138623-3	D-02A-W-230808	70						
410-138623-3	D-02A-W-230808	68 cn						
410-138623-4	D-08-W-230808	68						
410-138623-4	D-08-W-230808	69 cn						
410-138623-5	MW-23-W-230808	77						
410-138623-5	MW-23-W-230808	71 cn						
410-138623-6	MW-26-W-230808	71						
410-138623-6	MW-26-W-230808	76						
410-138623-7	D-18-W-230808	74						
410-138623-7	D-18-W-230808	52 cn						
410-138623-8	MW-30-W-230808	63						
410-138623-9	D-17-W-230808	72						
410-138623-9	D-17-W-230808	54 cn						
410-138623-10	MW-31-W-230808	61						
410-138623-10	MW-31-W-230808	72 cn						
410-138623-11	D-09-W-230808	67						
410-138623-11	D-09-W-230808	79 cn						
410-138623-12	MW-24-W-230808	79						
410-138623-12	MW-24-W-230808	63 cn						
410-138623-13	D-19-W-230808	77						
410-138623-13	D-19-W-230808	68 cn						
410-138623-14	MW-39-W-230809	58						
410-138623-14	MW-39-W-230809	59 cn						
410-138623-15	D-27-W-230809	68						
410-138623-15	D-27-W-230809	59 cn						
410-138623-16	RMW-01-W-230809	66						
410-138623-16	RMW-01-W-230809	70 cn						
410-138623-17	D-12-W-230809	77						
410-138623-17	D-12-W-230809	68						
410-138623-18	MW-29-W-230809	82						
410-138623-18	MW-29-W-230809	77						
410-138623-19	D-15-W-230809	72						
410-138623-19	D-15-W-230809	52 cn						
410-138623-20	D-22-W-230809	70						
410-138623-20	D-22-W-230809	69 cn						
410-138623-21	D-10-W-230809	70						
410-138623-21	D-10-W-230809	85						
410-138623-22	MW-34-W-230809	71						
410-138623-22	MW-34-W-230809	63 cn						
410-138623-22 MS	MW-34-W-230809	71						
410-138623-22 MS	MW-34-W-230809	58 cn						
410-138623-22 MSD	MW-34-W-230809	69						
410-138623-22 MSD	MW-34-W-230809	62 cn						
410-138623-23	MW-25-W-230809	82						
410-138623-23	MW-25-W-230809	71						
410-138623-23 DU	MW-25-W-230809	77						
410-138623-23 DU	MW-25-W-230809	72						

Surrogate Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTP (50-150)						
LCS 410-409061/2-A	Lab Control Sample	79						
LCS 410-409063/2-B	Lab Control Sample	52 cn						
LCS 410-409269/2-A	Lab Control Sample	81						
LCS 410-409272/2-A	Lab Control Sample	81						
LCS 410-409930/2-B	Lab Control Sample	73						
LCS 410-411224/2-B	Lab Control Sample	60						
LCSD 410-409061/3-A	Lab Control Sample Dup	77						
LCSD 410-409063/3-B	Lab Control Sample Dup	62 cn						
LCSD 410-409269/3-A	Lab Control Sample Dup	76						
LCSD 410-409930/3-B	Lab Control Sample Dup	73						
LCSD 410-411224/3-B	Lab Control Sample Dup	64						
MB 410-409061/1-A	Method Blank	80						
MB 410-409063/1-B	Method Blank	47 S1- cn						
MB 410-409269/1-A	Method Blank	82						
MB 410-409272/1-A	Method Blank	85						
MB 410-409930/1-B	Method Blank	81						
MB 410-411224/1-B	Method Blank	85						

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-409488/6
Matrix: Water
Analysis Batch: 409488

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			08/17/23 14:27	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/17/23 14:27	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/17/23 14:27	1
Toluene	ND		1.0	0.30	ug/L			08/17/23 14:27	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/17/23 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/17/23 14:27*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/17/23 14:27*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*08/17/23 14:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/17/23 14:27*	*1*

Lab Sample ID: LCS 410-409488/4
Matrix: Water
Analysis Batch: 409488

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	19.9		ug/L		99	80 - 120
Ethylbenzene	20.0	19.6		ug/L		98	80 - 120
Methyl tertiary butyl ether	20.0	19.3		ug/L		97	69 - 122
Toluene	20.0	20.1		ug/L		101	80 - 120
Xylenes, Total	60.0	58.7		ug/L		98	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Sample ID: LCSD 410-409488/5
Matrix: Water
Analysis Batch: 409488

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	21.5		ug/L		107	80 - 120	8	30
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120	6	30
Methyl tertiary butyl ether	20.0	21.4		ug/L		107	69 - 122	10	30
Toluene	20.0	21.5		ug/L		108	80 - 120	7	30
Xylenes, Total	60.0	62.8		ug/L		105	80 - 120	7	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-409976/7
Matrix: Water
Analysis Batch: 409976

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			08/18/23 16:49	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 16:49	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 16:49	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 16:49	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 16:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/18/23 16:49*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*08/18/23 16:49*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*08/18/23 16:49*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*08/18/23 16:49*	*1*

Lab Sample ID: LCS 410-409976/4
Matrix: Water
Analysis Batch: 409976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.8		ug/L		104	80 - 120		
Ethylbenzene			20.0	20.5		ug/L		103	80 - 120		
Methyl tertiary butyl ether			20.0	20.1		ug/L		101	69 - 122		
Toluene			20.0	20.7		ug/L		103	80 - 120		
Xylenes, Total			60.0	60.3		ug/L		101	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: LCSD 410-409976/5
Matrix: Water
Analysis Batch: 409976

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	19.2		ug/L		96	80 - 120	8	30
Ethylbenzene			20.0	20.6		ug/L		103	80 - 120	1	30
Methyl tertiary butyl ether			20.0	17.8		ug/L		89	69 - 122	12	30
Toluene			20.0	20.9		ug/L		105	80 - 120	1	30
Xylenes, Total			60.0	61.2		ug/L		102	80 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*80*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*90*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-409978/6
Matrix: Water
Analysis Batch: 409978

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			08/18/23 15:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/18/23 15:32	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/18/23 15:32	1
Toluene	ND		1.0	0.30	ug/L			08/18/23 15:32	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/18/23 15:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/18/23 15:32*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/18/23 15:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/18/23 15:32*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*08/18/23 15:32*	*1*

Lab Sample ID: LCS 410-409978/4
Matrix: Water
Analysis Batch: 409978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	21.2		ug/L		106	80 - 120		
Ethylbenzene			20.0	21.4		ug/L		107	80 - 120		
Methyl tertiary butyl ether			20.0	18.9		ug/L		94	69 - 122		
Toluene			20.0	22.5		ug/L		113	80 - 120		
Xylenes, Total			60.0	61.9		ug/L		103	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*80 - 120*
Toluene-d8 (Surr)	*111*		*80 - 120*

Lab Sample ID: LCSD 410-409978/5
Matrix: Water
Analysis Batch: 409978

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	20.3		ug/L		101	80 - 120	5	30
Ethylbenzene			20.0	20.1		ug/L		100	80 - 120	6	30
Methyl tertiary butyl ether			20.0	18.3		ug/L		92	69 - 122	3	30
Toluene			20.0	18.3		ug/L		92	80 - 120	21	30
Xylenes, Total			60.0	59.1		ug/L		99	80 - 120	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-138623-22 MS
Matrix: Water
Analysis Batch: 409978

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	23.7		ug/L		118	80 - 120
Ethylbenzene	ND		20.0	23.2		ug/L		116	80 - 120
Methyl tertiary butyl ether	ND		20.0	20.6		ug/L		103	69 - 122
Toluene	ND		20.0	21.5		ug/L		108	80 - 120
Xylenes, Total	ND		60.0	67.3		ug/L		112	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*85*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 410-138623-22 MSD
Matrix: Water
Analysis Batch: 409978

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	23.5		ug/L		117	80 - 120	1	30
Ethylbenzene	ND		20.0	23.1		ug/L		116	80 - 120	1	30
Methyl tertiary butyl ether	ND		20.0	19.3		ug/L		97	69 - 122	6	30
Toluene	ND		20.0	22.8		ug/L		114	80 - 120	6	30
Xylenes, Total	ND		60.0	68.3		ug/L		114	80 - 120	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*83*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 410-410671/6
Matrix: Water
Analysis Batch: 410671

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			08/21/23 16:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 16:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 16:36	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 16:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 16:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/21/23 16:36*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/21/23 16:36*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/21/23 16:36*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 16:36*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-410671/4
Matrix: Water
Analysis Batch: 410671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.4		ug/L		102	80 - 120		
Ethylbenzene			20.0	21.0		ug/L		105	80 - 120		
Methyl tertiary butyl ether			20.0	18.3		ug/L		92	69 - 122		
Toluene			20.0	20.7		ug/L		104	80 - 120		
Xylenes, Total			60.0	61.0		ug/L		102	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 410-410671/5
Matrix: Water
Analysis Batch: 410671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	22.6		ug/L		113	80 - 120	10	30
Ethylbenzene			20.0	22.2		ug/L		111	80 - 120	6	30
Methyl tertiary butyl ether			20.0	20.0		ug/L		100	69 - 122	9	30
Toluene			20.0	22.3		ug/L		111	80 - 120	7	30
Xylenes, Total			60.0	65.3		ug/L		109	80 - 120	7	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-408526/10
Matrix: Water
Analysis Batch: 408526

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	43	ug/L			08/15/23 20:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/15/23 20:15*	*1*

Lab Sample ID: LCS 410-408526/6
Matrix: Water
Analysis Batch: 408526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1040		ug/L		94	64 - 131		

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-408526/6
Matrix: Water
Analysis Batch: 408526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Lab Sample ID: LCSD 410-408526/7
Matrix: Water
Analysis Batch: 408526

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	1060		ug/L		96	64 - 131	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Lab Sample ID: MB 410-409090/5
Matrix: Water
Analysis Batch: 409090

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	43	ug/L			08/16/23 18:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/16/23 18:18*	*1*

Lab Sample ID: LCS 410-409090/6
Matrix: Water
Analysis Batch: 409090

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	1010		ug/L		92	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Lab Sample ID: LCSD 410-409090/7
Matrix: Water
Analysis Batch: 409090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1040		ug/L		95	64 - 131	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-138623-22 MS
Matrix: Water
Analysis Batch: 409090

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND		1120	1120		ug/L		100	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Lab Sample ID: 410-138623-22 MSD
Matrix: Water
Analysis Batch: 409090

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1180		ug/L		106	80 - 120	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Lab Sample ID: MB 410-409477/5
Matrix: Water
Analysis Batch: 409477

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	43	ug/L			08/17/23 13:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*08/17/23 13:45*	*1*

Lab Sample ID: LCS 410-409477/6
Matrix: Water
Analysis Batch: 409477

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	913		ug/L		83	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*

Lab Sample ID: LCSD 410-409477/7
Matrix: Water
Analysis Batch: 409477

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	915		ug/L		83	64 - 131	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-410525/5
Matrix: Water
Analysis Batch: 410525

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	43	ug/L			08/21/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/21/23 11:45*	*1*

Lab Sample ID: LCS 410-410525/6
Matrix: Water
Analysis Batch: 410525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1070		ug/L		97	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Lab Sample ID: LCSD 410-410525/7
Matrix: Water
Analysis Batch: 410525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1080		ug/L		99	64 - 131	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-409061/1-A
Matrix: Water
Analysis Batch: 409400

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		08/16/23 16:01	08/17/23 12:11	1
C24-C40	ND		250	100	ug/L		08/16/23 16:01	08/17/23 12:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*08/16/23 16:01*	*08/17/23 12:11*	*1*

Lab Sample ID: LCS 410-409061/2-A
Matrix: Water
Analysis Batch: 409400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409061

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	263		ug/L		43	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*79*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-409061/3-A
Matrix: Water
Analysis Batch: 409400

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409061

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	260		ug/L		43	14 - 115	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*77*		*50 - 150*

Lab Sample ID: 410-138623-22 MS
Matrix: Water
Analysis Batch: 409400

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA
Prep Batch: 409061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	ND		632	202		ug/L		32	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*71*		*50 - 150*

Lab Sample ID: 410-138623-22 MSD
Matrix: Water
Analysis Batch: 409400

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA
Prep Batch: 409061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	ND		621	223		ug/L		36	30 - 115	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*69*		*50 - 150*

Lab Sample ID: 410-138623-1 DU
Matrix: Water
Analysis Batch: 409400

Client Sample ID: MW-21-W-230807
Prep Type: Total/NA
Prep Batch: 409061

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	500			510		ug/L				2	20
C24-C40	280			328		ug/L				16	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*78*		*50 - 150*

Lab Sample ID: MB 410-409063/1-B
Matrix: Water
Analysis Batch: 409852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND	cn	100	45	ug/L		08/16/23 16:07	08/18/23 15:25	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/16/23 16:07	08/18/23 15:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*47*	*S1- cn*	*50 - 150*	*08/16/23 16:07*	*08/18/23 15:25*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-409063/2-B
Matrix: Water
Analysis Batch: 409852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409063

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			604	160	cn	ug/L		26	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*52*	*cn*	*50 - 150*

Lab Sample ID: LCSD 410-409063/3-B
Matrix: Water
Analysis Batch: 409852

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409063

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			604	214	*1 cn	ug/L		35	14 - 115	29	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*

Lab Sample ID: 410-138623-22 MS
Matrix: Water
Analysis Batch: 409852

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA
Prep Batch: 409063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up	ND	*1 F1 cn	632	177	F1 cn	ug/L		28	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*58*	*cn*	*50 - 150*

Lab Sample ID: 410-138623-22 MSD
Matrix: Water
Analysis Batch: 409852

Client Sample ID: MW-34-W-230809
Prep Type: Total/NA
Prep Batch: 409063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	*1 F1 cn	621	198	cn	ug/L		32	30 - 115	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*

Lab Sample ID: 410-138623-1 DU
Matrix: Water
Analysis Batch: 409852

Client Sample ID: MW-21-W-230807
Prep Type: Total/NA
Prep Batch: 409063

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	*1 cn		ND	*1 cn	ug/L				NC	20
C24-C40 with Silica Gel clean up	ND	cn		ND	cn	ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*43*	*S1- cn*	*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-409269/1-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		08/17/23 07:54	08/18/23 10:50	1
C24-C40	ND		250	100	ug/L		08/17/23 07:54	08/18/23 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*08/17/23 07:54*	*08/18/23 10:50*	*1*

Lab Sample ID: LCS 410-409269/2-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409269

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	279		ug/L		46	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*81*		*50 - 150*

Lab Sample ID: LCSD 410-409269/3-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409269

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	239		ug/L		40	14 - 115	15	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*76*		*50 - 150*

Lab Sample ID: 410-138623-23 DU
Matrix: Water
Analysis Batch: 409858

Client Sample ID: MW-25-W-230809
Prep Type: Total/NA
Prep Batch: 409269

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	340			319		ug/L				5	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*77*		*50 - 150*

Lab Sample ID: MB 410-409272/1-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		08/17/23 07:57	08/18/23 16:57	1
C24-C40	ND		250	100	ug/L		08/17/23 07:57	08/18/23 16:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*85*		*50 - 150*	*08/17/23 07:57*	*08/18/23 16:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: LCS 410-409272/2-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409272

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	258		ug/L		43	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*81*		*50 - 150*

Lab Sample ID: MB 410-409930/1-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/17/23 07:54	08/21/23 17:18	1
C24-C40 with Silica Gel clean up	374		250	100	ug/L		08/17/23 07:54	08/21/23 17:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*08/17/23 07:54*	*08/21/23 17:18*	*1*

Lab Sample ID: LCS 410-409930/2-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			604	249		ug/L		41	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*73*		*50 - 150*

Lab Sample ID: LCSD 410-409930/3-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			604	208		ug/L		35	14 - 115	18	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*73*		*50 - 150*

Lab Sample ID: 410-138623-23 DU
Matrix: Water
Analysis Batch: 410589

Client Sample ID: MW-25-W-230809
Prep Type: Total/NA
Prep Batch: 409930

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	47	J		59.1	J F5	ug/L				24	20
C24-C40 with Silica Gel clean up	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*72*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-411224/1-B
Matrix: Water
Analysis Batch: 412809

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411224

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/22/23 16:13	08/26/23 00:59	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/22/23 16:13	08/26/23 00:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*85*		*50 - 150*	*08/22/23 16:13*	*08/26/23 00:59*	*1*

Lab Sample ID: LCS 410-411224/2-B
Matrix: Water
Analysis Batch: 412809

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411224

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			604	168		ug/L		28	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*60*		*50 - 150*

Lab Sample ID: LCSD 410-411224/3-B
Matrix: Water
Analysis Batch: 412809

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411224

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			604	180		ug/L		30	14 - 115	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*64*		*50 - 150*

QC Association Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites - Tacoma

Job ID: 410-138623-1

GC/MS VOA

Analysis Batch: 409488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	8260D/UST	
410-138623-24	TB-1-T-20230807	Total/NA	Water	8260D/UST	
410-138623-25	TB-2-T-20230807	Total/NA	Water	8260D/UST	
MB 410-409488/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-409488/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-409488/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 409976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-2	MW-12-W-230808	Total/NA	Water	8260D/UST	
410-138623-3	D-02A-W-230808	Total/NA	Water	8260D/UST	
410-138623-4	D-08-W-230808	Total/NA	Water	8260D/UST	
410-138623-6	MW-26-W-230808	Total/NA	Water	8260D/UST	
MB 410-409976/7	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-409976/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-409976/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 409978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-7	D-18-W-230808	Total/NA	Water	8260D/UST	
410-138623-8	MW-30-W-230808	Total/NA	Water	8260D/UST	
410-138623-9	D-17-W-230808	Total/NA	Water	8260D/UST	
410-138623-10	MW-31-W-230808	Total/NA	Water	8260D/UST	
410-138623-11	D-09-W-230808	Total/NA	Water	8260D/UST	
410-138623-12	MW-24-W-230808	Total/NA	Water	8260D/UST	
410-138623-13	D-19-W-230808	Total/NA	Water	8260D/UST	
410-138623-14	MW-39-W-230809	Total/NA	Water	8260D/UST	
410-138623-15	D-27-W-230809	Total/NA	Water	8260D/UST	
410-138623-16	RMW-01-W-230809	Total/NA	Water	8260D/UST	
410-138623-17	D-12-W-230809	Total/NA	Water	8260D/UST	
410-138623-18	MW-29-W-230809	Total/NA	Water	8260D/UST	
410-138623-19	D-15-W-230809	Total/NA	Water	8260D/UST	
410-138623-20	D-22-W-230809	Total/NA	Water	8260D/UST	
410-138623-21	D-10-W-230809	Total/NA	Water	8260D/UST	
410-138623-22	MW-34-W-230809	Total/NA	Water	8260D/UST	
410-138623-23	MW-25-W-230809	Total/NA	Water	8260D/UST	
MB 410-409978/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-409978/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-409978/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	8260D/UST	
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	8260D/UST	

Analysis Batch: 410671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-5	MW-23-W-230808	Total/NA	Water	8260D/UST	
MB 410-410671/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-410671/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-410671/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

QC Association Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites - Tacoma

Job ID: 410-138623-1

GC VOA

Analysis Batch: 408526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-2	MW-12-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-3	D-02A-W-230808	Total/NA	Water	NWTPH-Gx	
MB 410-408526/10	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-408526/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-408526/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 409090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-4	D-08-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-5	MW-23-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-6	MW-26-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-7	D-18-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-8	MW-30-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-9	D-17-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-11	D-09-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-12	MW-24-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-13	D-19-W-230808	Total/NA	Water	NWTPH-Gx	
410-138623-14	MW-39-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-15	D-27-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-16	RMW-01-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-17	D-12-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-18	MW-29-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-19	D-15-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-20	D-22-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-22	MW-34-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-24	TB-1-T-20230807	Total/NA	Water	NWTPH-Gx	
MB 410-409090/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-409090/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-409090/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 409477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-21	D-10-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-23	MW-25-W-230809	Total/NA	Water	NWTPH-Gx	
410-138623-25	TB-2-T-20230807	Total/NA	Water	NWTPH-Gx	
MB 410-409477/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-409477/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-409477/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 410525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	NWTPH-Gx	
MB 410-410525/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-410525/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-410525/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 409061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	3510C	
410-138623-2	MW-12-W-230808	Total/NA	Water	3510C	
410-138623-3	D-02A-W-230808	Total/NA	Water	3510C	
410-138623-4	D-08-W-230808	Total/NA	Water	3510C	
410-138623-5	MW-23-W-230808	Total/NA	Water	3510C	
410-138623-6	MW-26-W-230808	Total/NA	Water	3510C	
410-138623-7	D-18-W-230808	Total/NA	Water	3510C	
410-138623-9	D-17-W-230808	Total/NA	Water	3510C	
410-138623-10	MW-31-W-230808	Total/NA	Water	3510C	
410-138623-11	D-09-W-230808	Total/NA	Water	3510C	
410-138623-12	MW-24-W-230808	Total/NA	Water	3510C	
410-138623-13	D-19-W-230808	Total/NA	Water	3510C	
410-138623-14	MW-39-W-230809	Total/NA	Water	3510C	
410-138623-15	D-27-W-230809	Total/NA	Water	3510C	
410-138623-16	RMW-01-W-230809	Total/NA	Water	3510C	
410-138623-17	D-12-W-230809	Total/NA	Water	3510C	
410-138623-18	MW-29-W-230809	Total/NA	Water	3510C	
410-138623-19	D-15-W-230809	Total/NA	Water	3510C	
410-138623-20	D-22-W-230809	Total/NA	Water	3510C	
410-138623-22	MW-34-W-230809	Total/NA	Water	3510C	
MB 410-409061/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-409061/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409061/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	3510C	
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	3510C	
410-138623-1 DU	MW-21-W-230807	Total/NA	Water	3510C	

Prep Batch: 409063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	3510C	
410-138623-2	MW-12-W-230808	Total/NA	Water	3510C	
410-138623-3	D-02A-W-230808	Total/NA	Water	3510C	
410-138623-4	D-08-W-230808	Total/NA	Water	3510C	
410-138623-5	MW-23-W-230808	Total/NA	Water	3510C	
410-138623-7	D-18-W-230808	Total/NA	Water	3510C	
410-138623-9	D-17-W-230808	Total/NA	Water	3510C	
410-138623-12	MW-24-W-230808	Total/NA	Water	3510C	
410-138623-13	D-19-W-230808	Total/NA	Water	3510C	
410-138623-14	MW-39-W-230809	Total/NA	Water	3510C	
410-138623-15	D-27-W-230809	Total/NA	Water	3510C	
410-138623-16	RMW-01-W-230809	Total/NA	Water	3510C	
410-138623-19	D-15-W-230809	Total/NA	Water	3510C	
410-138623-20	D-22-W-230809	Total/NA	Water	3510C	
410-138623-22	MW-34-W-230809	Total/NA	Water	3510C	
MB 410-409063/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-409063/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409063/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	3510C	
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	3510C	
410-138623-1 DU	MW-21-W-230807	Total/NA	Water	3510C	

GC Semi VOA

Prep Batch: 409269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-21	D-10-W-230809	Total/NA	Water	3510C	
410-138623-23	MW-25-W-230809	Total/NA	Water	3510C	
MB 410-409269/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-409269/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409269/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138623-23 DU	MW-25-W-230809	Total/NA	Water	3510C	

Prep Batch: 409272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-8	MW-30-W-230808	Total/NA	Water	3510C	
MB 410-409272/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-409272/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 409400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	NWTPH-Dx	409061
410-138623-2	MW-12-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-3	D-02A-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-4	D-08-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-5	MW-23-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-6	MW-26-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-7	D-18-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-9	D-17-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-10	MW-31-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-11	D-09-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-12	MW-24-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-13	D-19-W-230808	Total/NA	Water	NWTPH-Dx	409061
410-138623-14	MW-39-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-15	D-27-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-16	RMW-01-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-17	D-12-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-18	MW-29-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-19	D-15-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-20	D-22-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-22	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409061
MB 410-409061/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	409061
LCS 410-409061/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	409061
LCSD 410-409061/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	409061
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409061
410-138623-1 DU	MW-21-W-230807	Total/NA	Water	NWTPH-Dx	409061

Cleanup Batch: 409748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	3630C	409063
410-138623-2	MW-12-W-230808	Total/NA	Water	3630C	409063
410-138623-3	D-02A-W-230808	Total/NA	Water	3630C	409063
410-138623-4	D-08-W-230808	Total/NA	Water	3630C	409063
410-138623-5	MW-23-W-230808	Total/NA	Water	3630C	409063
410-138623-7	D-18-W-230808	Total/NA	Water	3630C	409063
410-138623-9	D-17-W-230808	Total/NA	Water	3630C	409063

GC Semi VOA (Continued)

Cleanup Batch: 409748 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-12	MW-24-W-230808	Total/NA	Water	3630C	409063
410-138623-13	D-19-W-230808	Total/NA	Water	3630C	409063
410-138623-14	MW-39-W-230809	Total/NA	Water	3630C	409063
410-138623-15	D-27-W-230809	Total/NA	Water	3630C	409063
410-138623-16	RMW-01-W-230809	Total/NA	Water	3630C	409063
410-138623-19	D-15-W-230809	Total/NA	Water	3630C	409063
410-138623-20	D-22-W-230809	Total/NA	Water	3630C	409063
410-138623-22	MW-34-W-230809	Total/NA	Water	3630C	409063
MB 410-409063/1-B	Method Blank	Total/NA	Water	3630C	409063
LCS 410-409063/2-B	Lab Control Sample	Total/NA	Water	3630C	409063
LCSD 410-409063/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	409063
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	3630C	409063
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	3630C	409063
410-138623-1 DU	MW-21-W-230807	Total/NA	Water	3630C	409063

Analysis Batch: 409852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-1	MW-21-W-230807	Total/NA	Water	NWTPH-Dx	409748
410-138623-2	MW-12-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-3	D-02A-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-4	D-08-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-5	MW-23-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-7	D-18-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-9	D-17-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-12	MW-24-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-13	D-19-W-230808	Total/NA	Water	NWTPH-Dx	409748
410-138623-14	MW-39-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-15	D-27-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-16	RMW-01-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-19	D-15-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-20	D-22-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-22	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409748
MB 410-409063/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	409748
LCS 410-409063/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	409748
LCSD 410-409063/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	409748
410-138623-22 MS	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-22 MSD	MW-34-W-230809	Total/NA	Water	NWTPH-Dx	409748
410-138623-1 DU	MW-21-W-230807	Total/NA	Water	NWTPH-Dx	409748

Analysis Batch: 409858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-8	MW-30-W-230808	Total/NA	Water	NWTPH-Dx	409272
410-138623-21	D-10-W-230809	Total/NA	Water	NWTPH-Dx	409269
410-138623-23	MW-25-W-230809	Total/NA	Water	NWTPH-Dx	409269
MB 410-409269/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	409269
MB 410-409272/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	409272
LCS 410-409269/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	409269
LCS 410-409272/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	409272
LCSD 410-409269/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	409269
410-138623-23 DU	MW-25-W-230809	Total/NA	Water	NWTPH-Dx	409269

GC Semi VOA

Prep Batch: 409930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-21	D-10-W-230809	Total/NA	Water	3510C	
410-138623-23	MW-25-W-230809	Total/NA	Water	3510C	
MB 410-409930/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138623-23 DU	MW-25-W-230809	Total/NA	Water	3510C	

Cleanup Batch: 410405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-21	D-10-W-230809	Total/NA	Water	3630C	409930
410-138623-23	MW-25-W-230809	Total/NA	Water	3630C	409930
MB 410-409930/1-B	Method Blank	Total/NA	Water	3630C	409930
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	3630C	409930
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	409930
410-138623-23 DU	MW-25-W-230809	Total/NA	Water	3630C	409930

Analysis Batch: 410589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-21	D-10-W-230809	Total/NA	Water	NWTPH-Dx	410405
410-138623-23	MW-25-W-230809	Total/NA	Water	NWTPH-Dx	410405
MB 410-409930/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	410405
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	410405
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	410405
410-138623-23 DU	MW-25-W-230809	Total/NA	Water	NWTPH-Dx	410405

Prep Batch: 411224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-6	MW-26-W-230808	Total/NA	Water	3510C	
410-138623-10	MW-31-W-230808	Total/NA	Water	3510C	
410-138623-11	D-09-W-230808	Total/NA	Water	3510C	
410-138623-17	D-12-W-230809	Total/NA	Water	3510C	
410-138623-18	MW-29-W-230809	Total/NA	Water	3510C	
MB 410-411224/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-411224/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-411224/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Cleanup Batch: 412328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-6	MW-26-W-230808	Total/NA	Water	3630C	411224
410-138623-10	MW-31-W-230808	Total/NA	Water	3630C	411224
410-138623-11	D-09-W-230808	Total/NA	Water	3630C	411224
410-138623-17	D-12-W-230809	Total/NA	Water	3630C	411224
410-138623-18	MW-29-W-230809	Total/NA	Water	3630C	411224
MB 410-411224/1-B	Method Blank	Total/NA	Water	3630C	411224
LCS 410-411224/2-B	Lab Control Sample	Total/NA	Water	3630C	411224
LCSD 410-411224/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	411224

Analysis Batch: 412809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-6	MW-26-W-230808	Total/NA	Water	NWTPH-Dx	412328
410-138623-10	MW-31-W-230808	Total/NA	Water	NWTPH-Dx	412328

GC Semi VOA (Continued)

Analysis Batch: 412809 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138623-11	D-09-W-230808	Total/NA	Water	NWTPH-Dx	412328
410-138623-17	D-12-W-230809	Total/NA	Water	NWTPH-Dx	412328
410-138623-18	MW-29-W-230809	Total/NA	Water	NWTPH-Dx	412328
MB 410-411224/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	412328
LCS 410-411224/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	412328
LCSD 410-411224/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	412328

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: MW-21-W-230807
Lab Sample ID: 410-138623-1
Date Collected: 08/07/23 15:35
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409488	UKAD	ELLE	08/17/23 16:26
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 14:27
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 16:34
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 13:20

Client Sample ID: MW-12-W-230808
Lab Sample ID: 410-138623-2
Date Collected: 08/08/23 10:25
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409976	MXX6	ELLE	08/18/23 20:48
Total/NA	Analysis	NWTPH-Gx		1	408526	MDQ6	ELLE	08/16/23 03:44
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 17:20
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 14:06

Client Sample ID: D-02A-W-230808
Lab Sample ID: 410-138623-3
Date Collected: 08/08/23 10:29
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409976	MXX6	ELLE	08/18/23 21:12
Total/NA	Analysis	NWTPH-Gx		1	408526	MDQ6	ELLE	08/16/23 04:09
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 17:43
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 14:28

Client Sample ID: D-08-W-230808
Lab Sample ID: 410-138623-4
Date Collected: 08/08/23 10:33
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409976	MXX6	ELLE	08/18/23 21:36
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/16/23 23:48
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 18:06

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: D-08-W-230808
Lab Sample ID: 410-138623-4
Date Collected: 08/08/23 10:33
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 14:52

Client Sample ID: MW-23-W-230808
Lab Sample ID: 410-138623-5
Date Collected: 08/08/23 10:35
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410671	MXX6	ELLE	08/21/23 22:08
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 00:13
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 18:29
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 15:14

Client Sample ID: MW-26-W-230808
Lab Sample ID: 410-138623-6
Date Collected: 08/08/23 13:10
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409976	MXX6	ELLE	08/18/23 18:00
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 00:38
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 15:37
Total/NA	Prep	3510C			411224	T9CY	ELLE	08/22/23 16:13
Total/NA	Cleanup	3630C			412328	USL7	ELLE	08/24/23 23:35
Total/NA	Analysis	NWTPH-Dx		1	412809	KP5X	ELLE	08/26/23 02:30

Client Sample ID: D-18-W-230808
Lab Sample ID: 410-138623-7
Date Collected: 08/08/23 13:13
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 17:25
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 01:04
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 19:15
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 16:00

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: MW-30-W-230808
Lab Sample ID: 410-138623-8
Date Collected: 08/08/23 14:44
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 17:49
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 01:29
Total/NA	Prep	3510C			409272	QKX3	ELLE	08/17/23 07:57
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 23:13

Client Sample ID: D-17-W-230808
Lab Sample ID: 410-138623-9
Date Collected: 08/08/23 14:47
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 18:12
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 01:55
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 19:38
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 16:23

Client Sample ID: MW-31-W-230808
Lab Sample ID: 410-138623-10
Date Collected: 08/08/23 15:53
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 18:36
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 16:46
Total/NA	Prep	3510C			411224	T9CY	ELLE	08/22/23 16:13
Total/NA	Cleanup	3630C			412328	USL7	ELLE	08/24/23 23:35
Total/NA	Analysis	NWTPH-Dx		1	412809	KP5X	ELLE	08/26/23 02:53

Client Sample ID: D-09-W-230808
Lab Sample ID: 410-138623-11
Date Collected: 08/08/23 16:06
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 19:00
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 03:11
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 17:31
Total/NA	Prep	3510C			411224	T9CY	ELLE	08/22/23 16:13
Total/NA	Cleanup	3630C			412328	USL7	ELLE	08/24/23 23:35
Total/NA	Analysis	NWTPH-Dx		1	412809	KP5X	ELLE	08/26/23 03:16

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: MW-24-W-230808
Lab Sample ID: 410-138623-12
Date Collected: 08/08/23 16:53
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 19:24
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 03:37
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 21:10
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 17:54

Client Sample ID: D-19-W-230808
Lab Sample ID: 410-138623-13
Date Collected: 08/08/23 17:10
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 19:48
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 04:02
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 21:41
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 18:17

Client Sample ID: MW-39-W-230809
Lab Sample ID: 410-138623-14
Date Collected: 08/09/23 09:23
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 20:12
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 04:28
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 22:04
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 18:40

Client Sample ID: D-27-W-230809
Lab Sample ID: 410-138623-15
Date Collected: 08/09/23 09:35
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 20:36
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 04:54
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 22:27

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: D-27-W-230809
Lab Sample ID: 410-138623-15
Date Collected: 08/09/23 09:35
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 19:03

Client Sample ID: RMW-01-W-230809
Lab Sample ID: 410-138623-16
Date Collected: 08/09/23 10:47
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 21:00
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 05:19
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 22:50
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 19:26

Client Sample ID: D-12-W-230809
Lab Sample ID: 410-138623-17
Date Collected: 08/09/23 11:05
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 21:24
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 05:45
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 19:49
Total/NA	Prep	3510C			411224	T9CY	ELLE	08/22/23 16:13
Total/NA	Cleanup	3630C			412328	USL7	ELLE	08/24/23 23:35
Total/NA	Analysis	NWTPH-Dx		1	412809	KP5X	ELLE	08/26/23 03:38

Client Sample ID: MW-29-W-230809
Lab Sample ID: 410-138623-18
Date Collected: 08/09/23 12:05
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 21:48
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 06:11
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 20:12
Total/NA	Prep	3510C			411224	T9CY	ELLE	08/22/23 16:13
Total/NA	Cleanup	3630C			412328	USL7	ELLE	08/24/23 23:35
Total/NA	Analysis	NWTPH-Dx		1	412809	KP5X	ELLE	08/26/23 04:01

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: D-15-W-230809
Lab Sample ID: 410-138623-19
Date Collected: 08/09/23 12:06
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 22:12
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 06:36
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/18/23 23:59
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 20:35

Client Sample ID: D-22-W-230809
Lab Sample ID: 410-138623-20
Date Collected: 08/09/23 14:15
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 22:36
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/17/23 07:02
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/19/23 00:21
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 20:58

Client Sample ID: D-10-W-230809
Lab Sample ID: 410-138623-21
Date Collected: 08/09/23 14:25
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 23:00
Total/NA	Analysis	NWTPH-Gx		1	409477	MXX6	ELLE	08/17/23 16:57
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 18:27
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 11:59

Client Sample ID: MW-34-W-230809
Lab Sample ID: 410-138623-22
Date Collected: 08/09/23 15:10
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/18/23 23:23
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/16/23 22:31
Total/NA	Prep	3510C			409063	QJZ6	ELLE	08/16/23 16:07
Total/NA	Cleanup	3630C			409748	USL7	ELLE	08/18/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	409852	IUSB	ELLE	08/19/23 00:44

Lab Chronicle

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Client Sample ID: MW-34-W-230809
Lab Sample ID: 410-138623-22
Date Collected: 08/09/23 15:10
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			409061	QJZ6	ELLE	08/16/23 16:01
Total/NA	Analysis	NWTPH-Dx		1	409400	IUSB	ELLE	08/17/23 21:20

Client Sample ID: MW-25-W-230809
Lab Sample ID: 410-138623-23
Date Collected: 08/09/23 15:33
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409978	MXX6	ELLE	08/19/23 00:35
Total/NA	Analysis	NWTPH-Gx		1	409477	MXX6	ELLE	08/17/23 17:23
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 18:50
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 12:22

Client Sample ID: TB-1-T-20230807
Lab Sample ID: 410-138623-24
Date Collected: 08/07/23 00:00
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409488	UKAD	ELLE	08/17/23 15:14
Total/NA	Analysis	NWTPH-Gx		1	409090	MDQ6	ELLE	08/16/23 21:15

Client Sample ID: TB-2-T-20230807
Lab Sample ID: 410-138623-25
Date Collected: 08/07/23 00:00
Matrix: Water
Date Received: 08/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	409488	UKAD	ELLE	08/17/23 15:38
Total/NA	Analysis	NWTPH-Gx		1	409477	MXX6	ELLE	08/17/23 16:05

Laboratory References:
ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites - Tacoma

Job ID: 410-138623-1

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-138623-1
Project/Site: CEMREC Legacy Sites - Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-138623-1	MW-21-W-230807	Water	08/07/23 15:35	08/11/23 10:00
410-138623-2	MW-12-W-230808	Water	08/08/23 10:25	08/11/23 10:00
410-138623-3	D-02A-W-230808	Water	08/08/23 10:29	08/11/23 10:00
410-138623-4	D-08-W-230808	Water	08/08/23 10:33	08/11/23 10:00
410-138623-5	MW-23-W-230808	Water	08/08/23 10:35	08/11/23 10:00
410-138623-6	MW-26-W-230808	Water	08/08/23 13:10	08/11/23 10:00
410-138623-7	D-18-W-230808	Water	08/08/23 13:13	08/11/23 10:00
410-138623-8	MW-30-W-230808	Water	08/08/23 14:44	08/11/23 10:00
410-138623-9	D-17-W-230808	Water	08/08/23 14:47	08/11/23 10:00
410-138623-10	MW-31-W-230808	Water	08/08/23 15:53	08/11/23 10:00
410-138623-11	D-09-W-230808	Water	08/08/23 16:06	08/11/23 10:00
410-138623-12	MW-24-W-230808	Water	08/08/23 16:53	08/11/23 10:00
410-138623-13	D-19-W-230808	Water	08/08/23 17:10	08/11/23 10:00
410-138623-14	MW-39-W-230809	Water	08/09/23 09:23	08/11/23 10:00
410-138623-15	D-27-W-230809	Water	08/09/23 09:35	08/11/23 10:00
410-138623-16	RMW-01-W-230809	Water	08/09/23 10:47	08/11/23 10:00
410-138623-17	D-12-W-230809	Water	08/09/23 11:05	08/11/23 10:00
410-138623-18	MW-29-W-230809	Water	08/09/23 12:05	08/11/23 10:00
410-138623-19	D-15-W-230809	Water	08/09/23 12:06	08/11/23 10:00
410-138623-20	D-22-W-230809	Water	08/09/23 14:15	08/11/23 10:00
410-138623-21	D-10-W-230809	Water	08/09/23 14:25	08/11/23 10:00
410-138623-22	MW-34-W-230809	Water	08/09/23 15:10	08/11/23 10:00
410-138623-23	MW-25-W-230809	Water	08/09/23 15:33	08/11/23 10:00
410-138623-24	TB-1-T-20230807	Water	08/07/23 00:00	08/11/23 10:00
410-138623-25	TB-2-T-20230807	Water	08/07/23 00:00	08/11/23 10:00

410-138623 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Sampler: C. Clousky/S. Catlin	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Phone: 2 358 4390 / 360 608 3212	E-Mail:	State of Origin:	Page: 1 of 2

Christina Wheeler (christina.wheeler@aecom.com)	PWSID:	Job #:
Company: AECOM		
Address: 888 SW 5th Ave	Due Date Requested:	
City: Portland	TAT Requested (days): 10 business days	
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No	
Phone: 971 323 6262	PO #: 152363	
Email:	WO #:	
Project Name: CEMREC Legacy Sites - Tacoma	Project #:	
AECOM Project #: 60701804	SSOW#:	

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx (with SiGel Cleanup)	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-21-W-~~230808~~ 230807	8/7/23	1535	G	W	N		X	X	X	X	8	
MW-12-W-230808	8/8/23	1025									8	
D-02A-W-230808	8/8/23	1029									8	
D-08-W-230808	8/8/23	1033									8	
MW-23-W-230808	8/8/23	1035									8	
MW-26-W-230808	8/8/23	1310									8	
D-18-W-230808	8/8/23	1313									8	
MW-30-W-230808	8/8/23	1444					X	X		X	3	
D-17-W-230808	8/8/23	1447					X	X	X	X	5	
MW-31-W-230808	8/8/23	1550						X	X	X	3	
D-09-W-230808	8/8/23	1606					X	X	X	X	8	
MW-24-W-230808	8/8/23	1653									8	
D-19-W-230808	8/8/23	1710									8	
MW-39-W-230809	8/9/23	0923									8	
D-27-W-230809	8/9/23	0935									8	
RMW-01-W-230809	8/9/23	1047									8	
D-12-W-230809	8/9/23	1105									8	
MW-29-W-230809	8/9/23	1205									8	
D-15-W-230809	8/9/23	1206									8	

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 8/9/23 1620	Company: AECOM	Received by:	Date/Time: 8/9/23 1626	Company: AECOM		
Relinquished by:	Date/Time: 8/10/23 1100	Company: AECOM	Received by:	Date/Time:	Company:		
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 8/11/23 10:00	Company: ET		

Custody Seals Intact: ☒ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: rec: 2.2-2.9 cor: 2.0-2.7

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: L. Celovsky / S. Catlin	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Client Contact: Brad Wynne (bradley.wynne@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 972 358 4390 360 608 3212	E-Mail:	State of Origin:	Page: 1 of 2
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No			
Phone: 971 323 6262	PO #: 152363			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx (with Silica Gel Cleanup)	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
			G	W	N		x	x	x	x		
D-22-W-230809	8/9	1415	G	W	N		X	X	X	X	9	
D-10-W-230809		1425	G	W	N		X	X	X	X	8	
MW-34-W-230809		1510	G	W	N	X	X	X	X	X	8	2x MS/MSD collected
MW-25-W-230809	↓	1533	G	W	N		X	X	X	X	8	
TB-1-20230807-W	8/7/23	–	–	W			X			X		
TB-2-20230807-W	8/7/23	–	–	W			X			X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 8/9/23 1620	Company: AECOM	Received by:	Date/Time: 8/9/23 1620	Company: AECOM
Relinquished by:	Date/Time: 8/10/23 1100	Company: AECOM	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 8/11/23 10:00	Company: ET

Custody Seals Intact: ☒ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Rec'd 2.2-2.9 Corr'd 2.0-2.7

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-138623-1

Login Number: 138623
List Number: 1
Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, 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.
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Bradley Wynne
AECOM
13355 Noel Road
Suite 400
Dallas, Texas 75240

Generated 9/5/2023 12:48:59 PM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-138766-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/5/2023 12:48:59 PM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 8
Client Sample Results 11
Surrogate Summary 25
QC Sample Results 28
QC Association Summary 36
Lab Chronicle 41
Certification Summary 47
Method Summary 48
Sample Summary 49
Chain of Custody 50
Receipt Checklists 52

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

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
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

Job ID: 410-138766-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-138766-1

Receipt
The samples were received on 8/12/2023 9:48 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.1°C, 3.6°C and 13.4°C

Receipt Exceptions
The container count for the following samples did not match what was listed on the Chain-of-Custody (COC): MW-14-W-230810 (410-138766-1), MW-13-W-230810 (410-138766-2), MW-18-W-230810 (410-138766-3), D-06-W-230810 (410-138766-4), D-14-W-230810 (410-138766-5), MW-19-W-230810 (410-138766-6), MW-37-W-230810 (410-138766-8), MW-36-W-230810 (410-138766-9), D-25-W-230810 (410-138766-10), D-26-W-230810 (410-138766-11), D-26-W-230810 (410-138766-11[MS]), D-26-W-230810 (410-138766-11[MSD]), D-24-W-230810 (410-138766-12), D-01-W-230811 (410-138766-13), DUP-1-WD-230811 (410-138766-14), D-07-W-230811 (410-138766-15), MW-22-W-230811 (410-138766-16), DUP-2-WD-230811 (410-138766-17), D-03A-W-230811 (410-138766-18) and MW-32-W-230811 (410-138766-19).
The laboratory received 2 total containers, while the COC lists 8 total containers.

Missing cooler and containers received 08/14/23.

Insufficient sample volume was provided for the following sample for the NWTPH-Dx analysis: TB-3-T-230811 (410-138766-21).

The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received:

Received 08/14/23.

MW-14-W-230810 (410-138766-1), MW-13-W-230810 (410-138766-2), MW-18-W-230810 (410-138766-3), D-06-W-230810 (410-138766-4), D-14-W-230810 (410-138766-5), MW-19-W-230810 (410-138766-6), MW-38-W-230810 (410-138766-7), MW-37-W-230810 (410-138766-8), MW-36-W-230810 (410-138766-9), D-25-W-230810 (410-138766-10), D-26-W-230810 (410-138766-11), D-26-W-230810 (410-138766-11[MS]), D-26-W-230810 (410-138766-11[MSD]), D-24-W-230810 (410-138766-12), D-01-W-230811 (410-138766-13), DUP-1-WD-230811 (410-138766-14), D-07-W-230811 (410-138766-15), MW-22-W-230811 (410-138766-16), DUP-2-WD-230811 (410-138766-17), D-03A-W-230811 (410-138766-18), MW-32-W-230811 (410-138766-19), RB-1-R-230811 (410-138766-20) and TB-3-T-230811 (410-138766-21).

GC/MS VOA
Method 8260D_UST: Internal standard (ISTD) response for t-Butyl alcohol-d10 for the following sample was outside acceptance criteria: TB-3-T-230811 (410-138766-21). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: The method blank for preparation batch 410-409930 and 410-410405 contained C24-C40 with Silica Gel clean up above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. MW-18-W-230810 (410-138766-3), D-14-W-230810 (410-138766-5), MW-19-W-230810 (410-138766-6), MW-38-W-230810 (410-138766-7), MW-37-W-230810 (410-138766-8), (410-138623-G-23-C) and (410-138623-H-23-C DU)

Method NWTPH_Dx: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) sample: D-26-W-230810 (410-138766-11[MS]). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Job ID: 410-138766-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Method NWTPH_Dx: C24-C40 with Silica Gel clean up was detected above the reporting limit (RL) in the method blank associated with preparation batch 410-409930 and 410-410405 and analytical batch 410-410589 as well as in the following samples: MW-14-W-230810 (410-138766-1) and MW-13-W-230810 (410-138766-2). All affected samples were re-extracted outside of holding time and the method blank is non-detect. Results are reported from the initial analysis.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-14-W-230810 — Lab Sample ID: 410-138766-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	510		100	45	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	77	J	100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	130	J	250	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	220	J B cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-13-W-230810 — Lab Sample ID: 410-138766-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	660		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1400		100	45	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	72	J	100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	180	J	250	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	200	J B cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-18-W-230810 — Lab Sample ID: 410-138766-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	920		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2700		100	45	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	120		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	250		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-06-W-230810 — Lab Sample ID: 410-138766-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	260		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3500		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	410		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-14-W-230810 — Lab Sample ID: 410-138766-5

No Detections.

Client Sample ID: MW-19-W-230810 — Lab Sample ID: 410-138766-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.48	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Toluene	0.42	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Xylenes, Total	1.5	J	6.0	0.40	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1400		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	7800		100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	85	J	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1100		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-38-W-230810 — Lab Sample ID: 410-138766-7

No Detections.

Client Sample ID: MW-37-W-230810 — Lab Sample ID: 410-138766-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	140		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-36-W-230810 — Lab Sample ID: 410-138766-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-25-W-230810 — Lab Sample ID: 410-138766-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	280		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-26-W-230810 — Lab Sample ID: 410-138766-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	130	F1	100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-24-W-230810 — Lab Sample ID: 410-138766-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	100		100	47	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-01-W-230811 — Lab Sample ID: 410-138766-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	200	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3400		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	380		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-1-WD-230811 — Lab Sample ID: 410-138766-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	220	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	440		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-07-W-230811 — Lab Sample ID: 410-138766-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	170		100	45	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-22-W-230811 — Lab Sample ID: 410-138766-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.47	J	6.0	0.40	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	310		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1600		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	890		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-2-WD-230811 — Lab Sample ID: 410-138766-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.50	J	6.0	0.40	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	310		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1600		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	960		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-03A-W-230811 — Lab Sample ID: 410-138766-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	59	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1500		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	520		260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-32-W-230811 — Lab Sample ID: 410-138766-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.77	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	670		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	450		100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	70	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RB-1-R-230811 — Lab Sample ID: 410-138766-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	53	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-3-T-230811 — Lab Sample ID: 410-138766-21

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-14-W-230810
Lab Sample ID: 410-138766-1

Date Collected: 08/10/23 09:41
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 17:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 17:56	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 17:56	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 17:56	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*08/21/23 17:56*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/21/23 17:56*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 17:56*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 17:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/21/23 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/21/23 14:52*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**510**		100	45	ug/L		08/17/23 07:54	08/18/23 13:08	1
C12-C24 with Silica Gel clean up	**77**	**J**	100	45	ug/L		08/17/23 07:54	08/21/23 19:36	1
C24-C40	**130**	**J**	250	100	ug/L		08/17/23 07:54	08/18/23 13:08	1
C24-C40 with Silica Gel clean up	**220**	**J B cn**	250	100	ug/L		08/17/23 07:54	08/21/23 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*08/17/23 07:54*	*08/18/23 13:08*	*1*
o- terphenyl (Surr)	*78*		*50 - 150*	*08/17/23 07:54*	*08/21/23 19:36*	*1*

Client Sample ID: MW-13-W-230810
Lab Sample ID: 410-138766-2

Date Collected: 08/10/23 11:17
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 18:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 18:20	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 18:20	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 18:20	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*		*08/21/23 18:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/21/23 18:20*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/21/23 18:20*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 18:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**660**		250	43	ug/L			08/21/23 15:18	1

Client Sample ID: MW-13-W-230810
Lab Sample ID: 410-138766-2

Date Collected: 08/10/23 11:17
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/21/23 15:18*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1400**		100	45	ug/L		08/17/23 07:54	08/18/23 13:54	1
C12-C24 with Silica Gel clean up	**72**	**J**	100	45	ug/L		08/17/23 07:54	08/21/23 19:59	1
C24-C40	**180**	**J**	250	100	ug/L		08/17/23 07:54	08/18/23 13:54	1
C24-C40 with Silica Gel clean up	**200**	**J B cn**	250	100	ug/L		08/17/23 07:54	08/21/23 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*78*		*50 - 150*	*08/17/23 07:54*	*08/18/23 13:54*	*1*
o- terphenyl (Surr)	*66*		*50 - 150*	*08/17/23 07:54*	*08/21/23 19:59*	*1*

Client Sample ID: MW-18-W-230810
Lab Sample ID: 410-138766-3

Date Collected: 08/10/23 12:25
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 18:44	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 18:44	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 18:44	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 18:44	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*08/21/23 18:44*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/21/23 18:44*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 18:44*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 18:44*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**920**		250	43	ug/L			08/21/23 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/21/23 15:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2700**		100	45	ug/L		08/17/23 07:54	08/18/23 14:16	1
C12-C24 with Silica Gel clean up	**120**		100	45	ug/L		08/17/23 07:54	08/21/23 20:22	1
C24-C40	**250**		250	100	ug/L		08/17/23 07:54	08/18/23 14:16	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/17/23 07:54	08/21/23 20:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*69*		*50 - 150*	*08/17/23 07:54*	*08/18/23 14:16*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*08/17/23 07:54*	*08/21/23 20:22*	*1*

Client Sample ID: D-06-W-230810
Lab Sample ID: 410-138766-4

Date Collected: 08/10/23 13:32
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 19:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 19:08	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 19:08	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 19:08	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*08/21/23 19:08*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/21/23 19:08*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 19:08*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 19:08*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**260**		250	43	ug/L			08/21/23 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*08/21/23 16:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**3500**		100	45	ug/L		08/17/23 07:54	08/18/23 14:39	1
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/23/23 16:01	08/28/23 14:13	1
C24-C40	**410**		250	100	ug/L		08/17/23 07:54	08/18/23 14:39	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*69*		*50 - 150*	*08/17/23 07:54*	*08/18/23 14:39*	*1*
o- terphenyl (Surr)	*55*		*50 - 150*	*08/23/23 16:01*	*08/28/23 14:13*	*1*

Client Sample ID: D-14-W-230810
Lab Sample ID: 410-138766-5

Date Collected: 08/10/23 15:17
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 19:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 19:32	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 19:32	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 19:32	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*08/21/23 19:32*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/21/23 19:32*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 19:32*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 19:32*	*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	43	ug/L			08/21/23 16:34	1

Client Sample ID: D-14-W-230810
Lab Sample ID: 410-138766-5

Date Collected: 08/10/23 15:17
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/21/23 16:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		08/17/23 07:54	08/18/23 15:02	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/17/23 07:54	08/21/23 21:07	1
C24-C40	ND		250	100	ug/L		08/17/23 07:54	08/18/23 15:02	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/17/23 07:54	08/21/23 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*08/17/23 07:54*	*08/18/23 15:02*	*1*
o- terphenyl (Surr)	*75*		*50 - 150*	*08/17/23 07:54*	*08/21/23 21:07*	*1*

Client Sample ID: MW-19-W-230810
Lab Sample ID: 410-138766-6

Date Collected: 08/10/23 16:28
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.48**	**J**	1.0	0.30	ug/L			08/21/23 19:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 19:56	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 19:56	1
Toluene	**0.42**	**J**	1.0	0.30	ug/L			08/21/23 19:56	1
Xylenes, Total	**1.5**	**J**	6.0	0.40	ug/L			08/21/23 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*		*08/21/23 19:56*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/21/23 19:56*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/21/23 19:56*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/21/23 19:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**1400**		250	43	ug/L			08/21/23 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*		*08/21/23 17:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**7800**		100	46	ug/L		08/17/23 07:54	08/18/23 15:25	1
C12-C24 with Silica Gel clean up	**85**	**J**	100	46	ug/L		08/17/23 07:54	08/21/23 21:30	1
C24-C40	**1100**		250	100	ug/L		08/17/23 07:54	08/18/23 15:25	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		08/17/23 07:54	08/21/23 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*55*		*50 - 150*	*08/17/23 07:54*	*08/18/23 15:25*	*1*
o- terphenyl (Surr)	*54*		*50 - 150*	*08/17/23 07:54*	*08/21/23 21:30*	*1*

Client Sample ID: MW-38-W-230810
Lab Sample ID: 410-138766-7

Date Collected: 08/10/23 17:15
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 20:20	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 20:20	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 20:20	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 20:20	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*		*08/21/23 20:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/21/23 20:20*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/21/23 20:20*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/21/23 20:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/22/23 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/22/23 21:30*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	47	ug/L		08/17/23 07:54	08/18/23 15:48	1
C12-C24 with Silica Gel clean up	ND		100	47	ug/L		08/17/23 07:54	08/21/23 21:53	1
C24-C40	ND		260	100	ug/L		08/17/23 07:54	08/18/23 15:48	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/17/23 07:54	08/21/23 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*08/17/23 07:54*	*08/18/23 15:48*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*08/17/23 07:54*	*08/21/23 21:53*	*1*

Client Sample ID: MW-37-W-230810
Lab Sample ID: 410-138766-8

Date Collected: 08/10/23 16:35
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 20:44	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 20:44	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 20:44	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 20:44	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/21/23 20:44*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*08/21/23 20:44*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*08/21/23 20:44*	*1*
Toluene-d8 (Surr)	*110*		*80 - 120*		*08/21/23 20:44*	*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	43	ug/L			08/22/23 21:55	1

Client Sample ID: MW-37-W-230810
Lab Sample ID: 410-138766-8

Date Collected: 08/10/23 16:35
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/22/23 21:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**140**		100	46	ug/L		08/17/23 07:54	08/18/23 16:11	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/17/23 07:54	08/21/23 22:16	1
C24-C40	ND		260	100	ug/L		08/17/23 07:54	08/18/23 16:11	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		08/17/23 07:54	08/21/23 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*08/17/23 07:54*	*08/18/23 16:11*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*08/17/23 07:54*	*08/21/23 22:16*	*1*

Client Sample ID: MW-36-W-230810
Lab Sample ID: 410-138766-9

Date Collected: 08/10/23 15:55
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 21:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 21:08	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 21:08	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 21:08	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*08/21/23 21:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/21/23 21:08*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*08/21/23 21:08*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*08/21/23 21:08*	*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	43	ug/L			08/22/23 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/22/23 22:21*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		08/23/23 16:04	08/24/23 21:35	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 14:36	1
C24-C40	ND		260	100	ug/L		08/23/23 16:04	08/24/23 21:35	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*08/23/23 16:04*	*08/24/23 21:35*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*08/23/23 16:01*	*08/28/23 14:36*	*1*

Client Sample ID: D-25-W-230810
Lab Sample ID: 410-138766-10

Date Collected: 08/10/23 10:40
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 21:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 21:32	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 21:32	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 21:32	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*08/21/23 21:32*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/21/23 21:32*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*08/21/23 21:32*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/21/23 21:32*	*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	43	ug/L			08/22/23 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*08/22/23 22:47*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**900**		100	46	ug/L		08/23/23 16:04	08/24/23 21:57	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 14:58	1
C24-C40	**280**		260	100	ug/L		08/23/23 16:04	08/24/23 21:57	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*08/23/23 16:04*	*08/24/23 21:57*	*1*
o- terphenyl (Surr)	*73*		*50 - 150*	*08/23/23 16:01*	*08/28/23 14:58*	*1*

Client Sample ID: D-26-W-230810
Lab Sample ID: 410-138766-11

Date Collected: 08/10/23 11:50
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 21:56	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 21:56	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 21:56	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 21:56	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/21/23 21:56*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*08/21/23 21:56*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/21/23 21:56*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/21/23 21:56*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/22/23 23:12	1

Client Sample ID: D-26-W-230810
Lab Sample ID: 410-138766-11

Date Collected: 08/10/23 11:50
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*08/22/23 23:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**130**	**F1**	100	47	ug/L		08/23/23 16:04	08/24/23 22:20	1
C12-C24 with Silica Gel clean up	ND	F1	100	47	ug/L		08/23/23 16:01	08/28/23 15:21	1
C24-C40	ND		260	100	ug/L		08/23/23 16:04	08/24/23 22:20	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*08/23/23 16:04*	*08/24/23 22:20*	*1*
o- terphenyl (Surr)	*64*		*50 - 150*	*08/23/23 16:01*	*08/28/23 15:21*	*1*

Client Sample ID: D-24-W-230810
Lab Sample ID: 410-138766-12

Date Collected: 08/10/23 14:40
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 18:16	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 18:16	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 18:16	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 18:16	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 18:16*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/22/23 18:16*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/22/23 18:16*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/22/23 18:16*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			08/23/23 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/23/23 00:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**100**		100	47	ug/L		08/23/23 16:04	08/24/23 23:28	1
C12-C24 with Silica Gel clean up	ND		100	47	ug/L		08/23/23 16:01	08/28/23 16:29	1
C24-C40	ND		260	100	ug/L		08/23/23 16:04	08/24/23 23:28	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*77*		*50 - 150*	*08/23/23 16:04*	*08/24/23 23:28*	*1*
o- terphenyl (Surr)	*70*		*50 - 150*	*08/23/23 16:01*	*08/28/23 16:29*	*1*

Client Sample ID: D-01-W-230811
Lab Sample ID: 410-138766-13

Date Collected: 08/11/23 09:25
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 18:40	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 18:40	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 18:40	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 18:40	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 18:40*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/22/23 18:40*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/22/23 18:40*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/22/23 18:40*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**200**	**J**	250	43	ug/L			08/23/23 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*08/23/23 00:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**3400**		100	46	ug/L		08/23/23 16:04	08/24/23 23:50	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 17:15	1
C24-C40	**380**		250	100	ug/L		08/23/23 16:04	08/24/23 23:50	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*65*		*50 - 150*	*08/23/23 16:04*	*08/24/23 23:50*	*1*
o- terphenyl (Surr)	*69*		*50 - 150*	*08/23/23 16:01*	*08/28/23 17:15*	*1*

Client Sample ID: DUP-1-WD-230811
Lab Sample ID: 410-138766-14

Date Collected: 08/11/23 09:28
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 19:04	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 19:04	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 19:04	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 19:04	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 19:04*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/22/23 19:04*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/22/23 19:04*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/22/23 19:04*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**220**	**J**	250	43	ug/L			08/23/23 02:12	1

Client Sample ID: DUP-1-WD-230811
Lab Sample ID: 410-138766-14

Date Collected: 08/11/23 09:28
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*08/23/23 02:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**3300**		100	46	ug/L		08/23/23 16:04	08/25/23 00:13	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 17:37	1
C24-C40	**440**		260	100	ug/L		08/23/23 16:04	08/25/23 00:13	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*08/23/23 16:04*	*08/25/23 00:13*	*1*
o- terphenyl (Surr)	*52*		*50 - 150*	*08/23/23 16:01*	*08/28/23 17:37*	*1*

Client Sample ID: D-07-W-230811
Lab Sample ID: 410-138766-15

Date Collected: 08/11/23 08:52
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 19:28	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 19:28	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 19:28	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 19:28	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/22/23 19:28*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/22/23 19:28*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/22/23 19:28*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/22/23 19:28*	*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	43	ug/L			08/23/23 02:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/23/23 02:37*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**170**		100	45	ug/L		08/23/23 16:04	08/25/23 00:58	1
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/23/23 16:01	08/28/23 18:00	1
C24-C40	ND		250	100	ug/L		08/23/23 16:04	08/25/23 00:58	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*08/23/23 16:04*	*08/25/23 00:58*	*1*
o- terphenyl (Surr)	*78*		*50 - 150*	*08/23/23 16:01*	*08/28/23 18:00*	*1*

Client Sample ID: MW-22-W-230811
Lab Sample ID: 410-138766-16

Date Collected: 08/11/23 09:59
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 19:52	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 19:52	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 19:52	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 19:52	1
Xylenes, Total	**0.47**	**J**	6.0	0.40	ug/L			08/22/23 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*80 - 120*		*08/22/23 19:52*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/22/23 19:52*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*08/22/23 19:52*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*08/22/23 19:52*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**310**		250	43	ug/L			08/23/23 03:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*08/23/23 03:03*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1600**		100	46	ug/L		08/23/23 16:04	08/25/23 01:21	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 18:23	1
C24-C40	**890**		260	100	ug/L		08/23/23 16:04	08/25/23 01:21	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*08/23/23 16:04*	*08/25/23 01:21*	*1*
o- terphenyl (Surr)	*65*		*50 - 150*	*08/23/23 16:01*	*08/28/23 18:23*	*1*

Client Sample ID: DUP-2-WD-230811
Lab Sample ID: 410-138766-17

Date Collected: 08/11/23 00:00
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 20:16	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 20:16	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 20:16	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 20:16	1
Xylenes, Total	**0.50**	**J**	6.0	0.40	ug/L			08/22/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 20:16*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/22/23 20:16*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/22/23 20:16*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*08/22/23 20:16*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**310**		250	43	ug/L			08/23/23 03:29	1

Client Sample ID: DUP-2-WD-230811
Lab Sample ID: 410-138766-17

Date Collected: 08/11/23 00:00
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*		*08/23/23 03:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1600**		100	45	ug/L		08/23/23 16:04	08/25/23 01:44	1
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/23/23 16:01	08/28/23 18:45	1
C24-C40	**960**		250	100	ug/L		08/23/23 16:04	08/25/23 01:44	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*71*		*50 - 150*	*08/23/23 16:04*	*08/25/23 01:44*	*1*
o- terphenyl (Surr)	*67*		*50 - 150*	*08/23/23 16:01*	*08/28/23 18:45*	*1*

Client Sample ID: D-03A-W-230811
Lab Sample ID: 410-138766-18

Date Collected: 08/11/23 10:50
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/22/23 20:40	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 20:40	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 20:40	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 20:40	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 120*		*08/22/23 20:40*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/22/23 20:40*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/22/23 20:40*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/22/23 20:40*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**59**	**J**	250	43	ug/L			08/23/23 03:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*95*		*50 - 150*		*08/23/23 03:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1500**		100	46	ug/L		08/23/23 16:04	08/25/23 02:07	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 19:08	1
C24-C40	**520**		260	100	ug/L		08/23/23 16:04	08/25/23 02:07	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*08/23/23 16:04*	*08/25/23 02:07*	*1*
o- terphenyl (Surr)	*74*		*50 - 150*	*08/23/23 16:01*	*08/28/23 19:08*	*1*

Client Sample ID: MW-32-W-230811
Lab Sample ID: 410-138766-19

Date Collected: 08/11/23 11:30
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.77**	**J**	1.0	0.30	ug/L			08/22/23 21:03	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 21:03	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 21:03	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 21:03	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 21:03*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/22/23 21:03*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*08/22/23 21:03*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/22/23 21:03*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**670**		250	43	ug/L			08/23/23 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*		*08/23/23 04:20*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**450**		100	46	ug/L		08/23/23 16:04	08/25/23 02:29	1
C12-C24 with Silica Gel clean up	**70**	**J**	100	46	ug/L		08/23/23 16:01	08/28/23 19:31	1
C24-C40	ND		250	100	ug/L		08/23/23 16:04	08/25/23 02:29	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*08/23/23 16:04*	*08/25/23 02:29*	*1*
o- terphenyl (Surr)	*69*		*50 - 150*	*08/23/23 16:01*	*08/28/23 19:31*	*1*

Client Sample ID: RB-1-R-230811
Lab Sample ID: 410-138766-20

Date Collected: 08/11/23 11:55
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - 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			08/21/23 17:32	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 17:32	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 17:32	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 17:32	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*08/21/23 17:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/21/23 17:32*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 17:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/21/23 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)	ND		250	43	ug/L			08/22/23 21:04	1

Client Sample ID: RB-1-R-230811
Lab Sample ID: 410-138766-20

Date Collected: 08/11/23 11:55
Matrix: Water
Date Received: 08/12/23 09:48

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/22/23 21:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**53**	**J**	100	46	ug/L		08/23/23 16:04	08/25/23 03:15	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		08/23/23 16:01	08/28/23 20:16	1
C24-C40	ND		260	100	ug/L		08/23/23 16:04	08/25/23 03:15	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		08/23/23 16:01	08/28/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*66*		*50 - 150*	*08/23/23 16:04*	*08/25/23 03:15*	*1*
o- terphenyl (Surr)	*61*		*50 - 150*	*08/23/23 16:01*	*08/28/23 20:16*	*1*

Client Sample ID: TB-3-T-230811
Lab Sample ID: 410-138766-21

Date Collected: 08/11/23 13:00
Matrix: Water
Date Received: 08/12/23 09:48

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	cn	1.0	0.30	ug/L			08/21/23 17:08	1
Ethylbenzene	ND	cn	1.0	0.40	ug/L			08/21/23 17:08	1
Methyl tertiary butyl ether	ND	cn	1.0	0.20	ug/L			08/21/23 17:08	1
Toluene	ND	cn	1.0	0.30	ug/L			08/21/23 17:08	1
Xylenes, Total	ND	cn	6.0	0.40	ug/L			08/21/23 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*	*cn*	*80 - 120*		*08/21/23 17:08*	*1*
4-Bromofluorobenzene (Surr)	*100*	*cn*	*80 - 120*		*08/21/23 17:08*	*1*
Dibromofluoromethane (Surr)	*97*	*cn*	*80 - 120*		*08/21/23 17:08*	*1*
Toluene-d8 (Surr)	*102*	*cn*	*80 - 120*		*08/21/23 17:08*	*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	43	ug/L			08/22/23 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*08/22/23 20:13*	*1*

Surrogate Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-138766-1	MW-14-W-230810	89	98	101	102
410-138766-2	MW-13-W-230810	88	99	100	102
410-138766-3	MW-18-W-230810	90	97	101	102
410-138766-4	D-06-W-230810	90	100	101	102
410-138766-5	D-14-W-230810	90	100	101	102
410-138766-6	MW-19-W-230810	87	100	93	104
410-138766-7	MW-38-W-230810	86	99	99	104
410-138766-8	MW-37-W-230810	85	104	100	110
410-138766-9	MW-36-W-230810	91	99	105	100
410-138766-10	D-25-W-230810	91	98	103	103
410-138766-11	D-26-W-230810	85	91	97	104
410-138766-11 MS	D-26-W-230810	89	96	98	103
410-138766-11 MSD	D-26-W-230810	87	100	94	102
410-138766-12	D-24-W-230810	84	98	97	101
410-138766-13	D-01-W-230811	84	99	99	103
410-138766-14	DUP-1-WD-230811	84	97	97	101
410-138766-15	D-07-W-230811	85	98	101	101
410-138766-16	MW-22-W-230811	83	98	94	100
410-138766-17	DUP-2-WD-230811	84	99	99	103
410-138766-18	D-03A-W-230811	85	100	101	102
410-138766-19	MW-32-W-230811	84	98	98	101
410-138766-20	RB-1-R-230811	89	97	101	101
410-138766-21	TB-3-T-230811	90 cn	100 cn	97 cn	102 cn
LCS 410-410669/4	Lab Control Sample	91	101	101	103
LCS 410-411025/4	Lab Control Sample	86	99	98	103
LCSD 410-410669/5	Lab Control Sample Dup	84	99	93	104
LCSD 410-411025/5	Lab Control Sample Dup	86	99	99	103
MB 410-410669/6	Method Blank	89	98	101	102
MB 410-411025/6	Method Blank	84	99	97	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-138766-1	MW-14-W-230810	97
410-138766-2	MW-13-W-230810	98
410-138766-3	MW-18-W-230810	97
410-138766-4	D-06-W-230810	94
410-138766-5	D-14-W-230810	98
410-138766-6	MW-19-W-230810	90
410-138766-7	MW-38-W-230810	98
410-138766-8	MW-37-W-230810	98

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		TFT-F1								
Lab Sample ID	Client Sample ID	(50-150)								
410-138766-9	MW-36-W-230810	98								
410-138766-10	D-25-W-230810	95								
410-138766-11	D-26-W-230810	99								
410-138766-11 MS	D-26-W-230810	89								
410-138766-11 MSD	D-26-W-230810	90								
410-138766-12	D-24-W-230810	98								
410-138766-13	D-01-W-230811	94								
410-138766-14	DUP-1-WD-230811	96								
410-138766-15	D-07-W-230811	98								
410-138766-16	MW-22-W-230811	94								
410-138766-17	DUP-2-WD-230811	94								
410-138766-18	D-03A-W-230811	95								
410-138766-19	MW-32-W-230811	93								
410-138766-20	RB-1-R-230811	97								
410-138766-21	TB-3-T-230811	98								
LCS 410-410525/6	Lab Control Sample	90								
LCS 410-411251/6	Lab Control Sample	90								
LCSD 410-410525/7	Lab Control Sample Dup	90								
LCSD 410-411251/7	Lab Control Sample Dup	91								
MB 410-410525/5	Method Blank	97								
MB 410-411251/5	Method Blank	99								

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		OTP								
Lab Sample ID	Client Sample ID	(50-150)								
410-138766-1	MW-14-W-230810	82								
410-138766-1	MW-14-W-230810	78								
410-138766-2	MW-13-W-230810	78								
410-138766-2	MW-13-W-230810	66								
410-138766-3	MW-18-W-230810	69								
410-138766-3	MW-18-W-230810	62								
410-138766-4	D-06-W-230810	69								
410-138766-4	D-06-W-230810	55								
410-138766-5	D-14-W-230810	80								
410-138766-5	D-14-W-230810	75								
410-138766-6	MW-19-W-230810	55								
410-138766-6	MW-19-W-230810	54								
410-138766-7	MW-38-W-230810	83								
410-138766-7	MW-38-W-230810	62								
410-138766-8	MW-37-W-230810	83								
410-138766-8	MW-37-W-230810	62								
410-138766-9	MW-36-W-230810	80								
410-138766-9	MW-36-W-230810	62								
410-138766-10	D-25-W-230810	83								
410-138766-10	D-25-W-230810	73								

Surrogate Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		OTP							
Lab Sample ID	Client Sample ID	(50-150)							
410-138766-11	D-26-W-230810	80							
410-138766-11	D-26-W-230810	64							
410-138766-11 MS	D-26-W-230810	66							
410-138766-11 MS	D-26-W-230810	44 S1- cn							
410-138766-11 MSD	D-26-W-230810	59							
410-138766-11 MSD	D-26-W-230810	55							
410-138766-12	D-24-W-230810	77							
410-138766-12	D-24-W-230810	70							
410-138766-13	D-01-W-230811	65							
410-138766-13	D-01-W-230811	69							
410-138766-14	DUP-1-WD-230811	61							
410-138766-14	DUP-1-WD-230811	52							
410-138766-15	D-07-W-230811	79							
410-138766-15	D-07-W-230811	78							
410-138766-16	MW-22-W-230811	70							
410-138766-16	MW-22-W-230811	65							
410-138766-17	DUP-2-WD-230811	71							
410-138766-17	DUP-2-WD-230811	67							
410-138766-18	D-03A-W-230811	73							
410-138766-18	D-03A-W-230811	74							
410-138766-19	MW-32-W-230811	72							
410-138766-19	MW-32-W-230811	69							
410-138766-19 DU	MW-32-W-230811	72							
410-138766-19 DU	MW-32-W-230811	65							
410-138766-20	RB-1-R-230811	66							
410-138766-20	RB-1-R-230811	61							
LCS 410-409269/2-A	Lab Control Sample	81							
LCS 410-409930/2-B	Lab Control Sample	73							
LCS 410-411651/2-B	Lab Control Sample	61							
LCS 410-411653/2-A	Lab Control Sample	84							
LCSD 410-409269/3-A	Lab Control Sample Dup	76							
LCSD 410-409930/3-B	Lab Control Sample Dup	73							
LCSD 410-411651/3-B	Lab Control Sample Dup	59							
LCSD 410-411653/3-A	Lab Control Sample Dup	80							
MB 410-409269/1-A	Method Blank	82							
MB 410-409930/1-B	Method Blank	81							
MB 410-411651/1-B	Method Blank	60							
MB 410-411653/1-A	Method Blank	72							

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-410669/6
Matrix: Water
Analysis Batch: 410669

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			08/21/23 16:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/23 16:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/23 16:24	1
Toluene	ND		1.0	0.30	ug/L			08/21/23 16:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/21/23 16:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*08/21/23 16:24*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/21/23 16:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*08/21/23 16:24*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/23 16:24*	*1*

Lab Sample ID: LCS 410-410669/4
Matrix: Water
Analysis Batch: 410669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.6		ug/L		103	80 - 120		
Ethylbenzene			20.0	20.1		ug/L		101	80 - 120		
Methyl tertiary butyl ether			20.0	19.7		ug/L		99	69 - 122		
Toluene			20.0	20.3		ug/L		101	80 - 120		
Xylenes, Total			60.0	60.6		ug/L		101	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 410-410669/5
Matrix: Water
Analysis Batch: 410669

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	21.3		ug/L		106	80 - 120	3	30
Ethylbenzene			20.0	20.2		ug/L		101	80 - 120	1	30
Methyl tertiary butyl ether			20.0	21.5		ug/L		108	69 - 122	9	30
Toluene			20.0	20.8		ug/L		104	80 - 120	3	30
Xylenes, Total			60.0	61.6		ug/L		103	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-138766-11 MS
Matrix: Water
Analysis Batch: 410669

Client Sample ID: D-26-W-230810
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	22.9		ug/L		114	80 - 120
Ethylbenzene	ND		20.0	22.4		ug/L		112	80 - 120
Methyl tertiary butyl ether	ND		20.0	20.8		ug/L		104	69 - 122
Toluene	ND		20.0	22.8		ug/L		114	80 - 120
Xylenes, Total	ND		60.0	67.1		ug/L		112	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 410-138766-11 MSD
Matrix: Water
Analysis Batch: 410669

Client Sample ID: D-26-W-230810
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	21.9		ug/L		110	80 - 120	4	30
Ethylbenzene	ND		20.0	21.9		ug/L		110	80 - 120	2	30
Methyl tertiary butyl ether	ND		20.0	18.7		ug/L		94	69 - 122	10	30
Toluene	ND		20.0	21.5		ug/L		107	80 - 120	6	30
Xylenes, Total	ND		60.0	65.2		ug/L		109	80 - 120	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 410-411025/6
Matrix: Water
Analysis Batch: 411025

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			08/22/23 15:52	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/22/23 15:52	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/22/23 15:52	1
Toluene	ND		1.0	0.30	ug/L			08/22/23 15:52	1
Xylenes, Total	ND		6.0	0.40	ug/L			08/22/23 15:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 120*		*08/22/23 15:52*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/22/23 15:52*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/22/23 15:52*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/22/23 15:52*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-411025/4
Matrix: Water
Analysis Batch: 411025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.1		ug/L		101	80 - 120		
Ethylbenzene			20.0	20.1		ug/L		100	80 - 120		
Methyl tertiary butyl ether			20.0	19.1		ug/L		95	69 - 122		
Toluene			20.0	20.3		ug/L		102	80 - 120		
Xylenes, Total			60.0	60.3		ug/L		101	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 410-411025/5
Matrix: Water
Analysis Batch: 411025

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	20.5		ug/L		103	80 - 120	2	30
Ethylbenzene			20.0	20.4		ug/L		102	80 - 120	2	30
Methyl tertiary butyl ether			20.0	19.5		ug/L		98	69 - 122	2	30
Toluene			20.0	20.9		ug/L		104	80 - 120	3	30
Xylenes, Total			60.0	61.5		ug/L		103	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-410525/5
Matrix: Water
Analysis Batch: 410525

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	43	ug/L			08/21/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*08/21/23 11:45*	*1*

Lab Sample ID: LCS 410-410525/6
Matrix: Water
Analysis Batch: 410525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1070		ug/L		97	64 - 131		

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-410525/6
Matrix: Water
Analysis Batch: 410525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150

Lab Sample ID: LCSD 410-410525/7
Matrix: Water
Analysis Batch: 410525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1080		ug/L		99	64 - 131	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150

Lab Sample ID: MB 410-411251/5
Matrix: Water
Analysis Batch: 411251

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	43	ug/L			08/22/23 18:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	99		50 - 150		08/22/23 18:01	1

Lab Sample ID: LCS 410-411251/6
Matrix: Water
Analysis Batch: 411251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1040		ug/L		95	64 - 131		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	90		50 - 150

Lab Sample ID: LCSD 410-411251/7
Matrix: Water
Analysis Batch: 411251

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	1070		ug/L		98	64 - 131	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-138766-11 MS
Matrix: Water
Analysis Batch: 411251

Client Sample ID: D-26-W-230810
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
C7-C12 (1C)	ND		1120	1180		ug/L		105	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Lab Sample ID: 410-138766-11 MSD
Matrix: Water
Analysis Batch: 411251

Client Sample ID: D-26-W-230810
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	1160		ug/L		104	80 - 120	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-409269/1-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		08/17/23 07:54	08/18/23 10:50	1
C24-C40	ND		250	100	ug/L		08/17/23 07:54	08/18/23 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*08/17/23 07:54*	*08/18/23 10:50*	*1*

Lab Sample ID: LCS 410-409269/2-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
C12-C24	604	279		ug/L		46	14 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*81*		*50 - 150*

Lab Sample ID: LCSD 410-409269/3-A
Matrix: Water
Analysis Batch: 409858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409269

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	604	239		ug/L		40	14 - 115	15	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*76*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-409930/1-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409930

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/17/23 07:54	08/21/23 17:18	1
C24-C40 with Silica Gel clean up	374		250	100	ug/L		08/17/23 07:54	08/21/23 17:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*08/17/23 07:54*	*08/21/23 17:18*	*1*

Lab Sample ID: LCS 410-409930/2-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			604	249		ug/L		41	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*73*		*50 - 150*

Lab Sample ID: LCSD 410-409930/3-B
Matrix: Water
Analysis Batch: 410589

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			604	208		ug/L		35	14 - 115	18	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*73*		*50 - 150*

Lab Sample ID: MB 410-411651/1-B
Matrix: Water
Analysis Batch: 413221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		08/23/23 16:01	08/28/23 13:05	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		08/23/23 16:01	08/28/23 13:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*60*		*50 - 150*	*08/23/23 16:01*	*08/28/23 13:05*	*1*

Lab Sample ID: LCS 410-411651/2-B
Matrix: Water
Analysis Batch: 413221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411651

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			604	205		ug/L		34	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*61*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-411651/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 413221
Prep Batch: 411651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			604	189		ug/L		31	14 - 115	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*59*		*50 - 150*

Lab Sample ID: 410-138766-11 MS
Client Sample ID: D-26-W-230810
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 413221
Prep Batch: 411651

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up	ND	F1	616	130	F1 cn	ug/L		21	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*44*	*S1- cn*	*50 - 150*

Lab Sample ID: 410-138766-11 MSD
Client Sample ID: D-26-W-230810
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 413221
Prep Batch: 411651

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	F1	621	132	F1	ug/L		21	30 - 115	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*55*		*50 - 150*

Lab Sample ID: 410-138766-19 DU
Client Sample ID: MW-32-W-230811
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 413221
Prep Batch: 411651

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	70	J		60.2	J	ug/L				15	20
C24-C40 with Silica Gel clean up	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*65*		*50 - 150*

Lab Sample ID: MB 410-411653/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		08/23/23 16:04	08/24/23 20:26	1
C24-C40	ND		250	100	ug/L		08/23/23 16:04	08/24/23 20:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*08/23/23 16:04*	*08/24/23 20:26*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-411653/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			604	262		ug/L		43	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*84*		*50 - 150*

Lab Sample ID: LCSD 410-411653/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			604	248		ug/L		41	14 - 115	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*80*		*50 - 150*

Lab Sample ID: 410-138766-11 MS
Client Sample ID: D-26-W-230810
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	130	F1	616	215	F1	ug/L		14	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*66*		*50 - 150*

Lab Sample ID: 410-138766-11 MSD
Client Sample ID: D-26-W-230810
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	130	F1	621	207	F1	ug/L		13	30 - 115	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*59*		*50 - 150*

Lab Sample ID: 410-138766-19 DU
Client Sample ID: MW-32-W-230811
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 412227
Prep Batch: 411653

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	450			480		ug/L				6	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*72*		*50 - 150*

GC/MS VOA

Analysis Batch: 410669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	8260D/UST	
410-138766-2	MW-13-W-230810	Total/NA	Water	8260D/UST	
410-138766-3	MW-18-W-230810	Total/NA	Water	8260D/UST	
410-138766-4	D-06-W-230810	Total/NA	Water	8260D/UST	
410-138766-5	D-14-W-230810	Total/NA	Water	8260D/UST	
410-138766-6	MW-19-W-230810	Total/NA	Water	8260D/UST	
410-138766-7	MW-38-W-230810	Total/NA	Water	8260D/UST	
410-138766-8	MW-37-W-230810	Total/NA	Water	8260D/UST	
410-138766-9	MW-36-W-230810	Total/NA	Water	8260D/UST	
410-138766-10	D-25-W-230810	Total/NA	Water	8260D/UST	
410-138766-11	D-26-W-230810	Total/NA	Water	8260D/UST	
410-138766-20	RB-1-R-230811	Total/NA	Water	8260D/UST	
410-138766-21	TB-3-T-230811	Total/NA	Water	8260D/UST	
MB 410-410669/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-410669/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-410669/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-138766-11 MS	D-26-W-230810	Total/NA	Water	8260D/UST	
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	8260D/UST	

Analysis Batch: 411025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-12	D-24-W-230810	Total/NA	Water	8260D/UST	
410-138766-13	D-01-W-230811	Total/NA	Water	8260D/UST	
410-138766-14	DUP-1-WD-230811	Total/NA	Water	8260D/UST	
410-138766-15	D-07-W-230811	Total/NA	Water	8260D/UST	
410-138766-16	MW-22-W-230811	Total/NA	Water	8260D/UST	
410-138766-17	DUP-2-WD-230811	Total/NA	Water	8260D/UST	
410-138766-18	D-03A-W-230811	Total/NA	Water	8260D/UST	
410-138766-19	MW-32-W-230811	Total/NA	Water	8260D/UST	
MB 410-411025/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-411025/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-411025/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 410525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-2	MW-13-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-3	MW-18-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-4	D-06-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-5	D-14-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-6	MW-19-W-230810	Total/NA	Water	NWTPH-Gx	
MB 410-410525/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-410525/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-410525/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 411251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-7	MW-38-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-8	MW-37-W-230810	Total/NA	Water	NWTPH-Gx	

GC VOA (Continued)

Analysis Batch: 411251 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-9	MW-36-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-10	D-25-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-11	D-26-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-12	D-24-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-13	D-01-W-230811	Total/NA	Water	NWTPH-Gx	
410-138766-14	DUP-1-WD-230811	Total/NA	Water	NWTPH-Gx	
410-138766-15	D-07-W-230811	Total/NA	Water	NWTPH-Gx	
410-138766-16	MW-22-W-230811	Total/NA	Water	NWTPH-Gx	
410-138766-17	DUP-2-WD-230811	Total/NA	Water	NWTPH-Gx	
410-138766-18	D-03A-W-230811	Total/NA	Water	NWTPH-Gx	
410-138766-19	MW-32-W-230811	Total/NA	Water	NWTPH-Gx	
410-138766-20	RB-1-R-230811	Total/NA	Water	NWTPH-Gx	
410-138766-21	TB-3-T-230811	Total/NA	Water	NWTPH-Gx	
MB 410-411251/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-411251/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-411251/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-138766-11 MS	D-26-W-230810	Total/NA	Water	NWTPH-Gx	
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 409269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	3510C	
410-138766-2	MW-13-W-230810	Total/NA	Water	3510C	
410-138766-3	MW-18-W-230810	Total/NA	Water	3510C	
410-138766-4	D-06-W-230810	Total/NA	Water	3510C	
410-138766-5	D-14-W-230810	Total/NA	Water	3510C	
410-138766-6	MW-19-W-230810	Total/NA	Water	3510C	
410-138766-7	MW-38-W-230810	Total/NA	Water	3510C	
410-138766-8	MW-37-W-230810	Total/NA	Water	3510C	
MB 410-409269/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-409269/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409269/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 409858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-2	MW-13-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-3	MW-18-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-4	D-06-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-5	D-14-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-6	MW-19-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-7	MW-38-W-230810	Total/NA	Water	NWTPH-Dx	409269
410-138766-8	MW-37-W-230810	Total/NA	Water	NWTPH-Dx	409269
MB 410-409269/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	409269
LCS 410-409269/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	409269
LCSD 410-409269/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	409269

GC Semi VOA

Prep Batch: 409930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	3510C	
410-138766-2	MW-13-W-230810	Total/NA	Water	3510C	
410-138766-3	MW-18-W-230810	Total/NA	Water	3510C	
410-138766-5	D-14-W-230810	Total/NA	Water	3510C	
410-138766-6	MW-19-W-230810	Total/NA	Water	3510C	
410-138766-7	MW-38-W-230810	Total/NA	Water	3510C	
410-138766-8	MW-37-W-230810	Total/NA	Water	3510C	
MB 410-409930/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Cleanup Batch: 410405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	3630C	409930
410-138766-2	MW-13-W-230810	Total/NA	Water	3630C	409930
410-138766-3	MW-18-W-230810	Total/NA	Water	3630C	409930
410-138766-5	D-14-W-230810	Total/NA	Water	3630C	409930
410-138766-6	MW-19-W-230810	Total/NA	Water	3630C	409930
410-138766-7	MW-38-W-230810	Total/NA	Water	3630C	409930
410-138766-8	MW-37-W-230810	Total/NA	Water	3630C	409930
MB 410-409930/1-B	Method Blank	Total/NA	Water	3630C	409930
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	3630C	409930
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	409930

Analysis Batch: 410589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-1	MW-14-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-2	MW-13-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-3	MW-18-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-5	D-14-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-6	MW-19-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-7	MW-38-W-230810	Total/NA	Water	NWTPH-Dx	410405
410-138766-8	MW-37-W-230810	Total/NA	Water	NWTPH-Dx	410405
MB 410-409930/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	410405
LCS 410-409930/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	410405
LCSD 410-409930/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	410405

Prep Batch: 411651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-4	D-06-W-230810	Total/NA	Water	3510C	
410-138766-9	MW-36-W-230810	Total/NA	Water	3510C	
410-138766-10	D-25-W-230810	Total/NA	Water	3510C	
410-138766-11	D-26-W-230810	Total/NA	Water	3510C	
410-138766-12	D-24-W-230810	Total/NA	Water	3510C	
410-138766-13	D-01-W-230811	Total/NA	Water	3510C	
410-138766-14	DUP-1-WD-230811	Total/NA	Water	3510C	
410-138766-15	D-07-W-230811	Total/NA	Water	3510C	
410-138766-16	MW-22-W-230811	Total/NA	Water	3510C	
410-138766-17	DUP-2-WD-230811	Total/NA	Water	3510C	
410-138766-18	D-03A-W-230811	Total/NA	Water	3510C	
410-138766-19	MW-32-W-230811	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 411651 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-20	RB-1-R-230811	Total/NA	Water	3510C	
MB 410-411651/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-411651/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-411651/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138766-11 MS	D-26-W-230810	Total/NA	Water	3510C	
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	3510C	
410-138766-19 DU	MW-32-W-230811	Total/NA	Water	3510C	

Prep Batch: 411653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-9	MW-36-W-230810	Total/NA	Water	3510C	
410-138766-10	D-25-W-230810	Total/NA	Water	3510C	
410-138766-11	D-26-W-230810	Total/NA	Water	3510C	
410-138766-12	D-24-W-230810	Total/NA	Water	3510C	
410-138766-13	D-01-W-230811	Total/NA	Water	3510C	
410-138766-14	DUP-1-WD-230811	Total/NA	Water	3510C	
410-138766-15	D-07-W-230811	Total/NA	Water	3510C	
410-138766-16	MW-22-W-230811	Total/NA	Water	3510C	
410-138766-17	DUP-2-WD-230811	Total/NA	Water	3510C	
410-138766-18	D-03A-W-230811	Total/NA	Water	3510C	
410-138766-19	MW-32-W-230811	Total/NA	Water	3510C	
410-138766-20	RB-1-R-230811	Total/NA	Water	3510C	
MB 410-411653/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-411653/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-411653/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-138766-11 MS	D-26-W-230810	Total/NA	Water	3510C	
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	3510C	
410-138766-19 DU	MW-32-W-230811	Total/NA	Water	3510C	

Analysis Batch: 412227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-9	MW-36-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-10	D-25-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-11	D-26-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-12	D-24-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-13	D-01-W-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-14	DUP-1-WD-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-15	D-07-W-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-16	MW-22-W-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-17	DUP-2-WD-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-18	D-03A-W-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-19	MW-32-W-230811	Total/NA	Water	NWTPH-Dx	411653
410-138766-20	RB-1-R-230811	Total/NA	Water	NWTPH-Dx	411653
MB 410-411653/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	411653
LCS 410-411653/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	411653
LCSD 410-411653/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	411653
410-138766-11 MS	D-26-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	NWTPH-Dx	411653
410-138766-19 DU	MW-32-W-230811	Total/NA	Water	NWTPH-Dx	411653

GC Semi VOA

Cleanup Batch: 412784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-4	D-06-W-230810	Total/NA	Water	3630C	411651
410-138766-9	MW-36-W-230810	Total/NA	Water	3630C	411651
410-138766-10	D-25-W-230810	Total/NA	Water	3630C	411651
410-138766-11	D-26-W-230810	Total/NA	Water	3630C	411651
410-138766-12	D-24-W-230810	Total/NA	Water	3630C	411651
410-138766-13	D-01-W-230811	Total/NA	Water	3630C	411651
410-138766-14	DUP-1-WD-230811	Total/NA	Water	3630C	411651
410-138766-15	D-07-W-230811	Total/NA	Water	3630C	411651
410-138766-16	MW-22-W-230811	Total/NA	Water	3630C	411651
410-138766-17	DUP-2-WD-230811	Total/NA	Water	3630C	411651
410-138766-18	D-03A-W-230811	Total/NA	Water	3630C	411651
410-138766-19	MW-32-W-230811	Total/NA	Water	3630C	411651
410-138766-20	RB-1-R-230811	Total/NA	Water	3630C	411651
MB 410-411651/1-B	Method Blank	Total/NA	Water	3630C	411651
LCS 410-411651/2-B	Lab Control Sample	Total/NA	Water	3630C	411651
LCSD 410-411651/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	411651
410-138766-11 MS	D-26-W-230810	Total/NA	Water	3630C	411651
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	3630C	411651
410-138766-19 DU	MW-32-W-230811	Total/NA	Water	3630C	411651

Analysis Batch: 413221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-138766-4	D-06-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-9	MW-36-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-10	D-25-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-11	D-26-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-12	D-24-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-13	D-01-W-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-14	DUP-1-WD-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-15	D-07-W-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-16	MW-22-W-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-17	DUP-2-WD-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-18	D-03A-W-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-19	MW-32-W-230811	Total/NA	Water	NWTPH-Dx	412784
410-138766-20	RB-1-R-230811	Total/NA	Water	NWTPH-Dx	412784
MB 410-411651/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	412784
LCS 410-411651/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	412784
LCSD 410-411651/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	412784
410-138766-11 MS	D-26-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-11 MSD	D-26-W-230810	Total/NA	Water	NWTPH-Dx	412784
410-138766-19 DU	MW-32-W-230811	Total/NA	Water	NWTPH-Dx	412784

Lab Chronicle

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-14-W-230810
Lab Sample ID: 410-138766-1
Date Collected: 08/10/23 09:41
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 17:56
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 14:52
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 19:36
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 13:08

Client Sample ID: MW-13-W-230810
Lab Sample ID: 410-138766-2
Date Collected: 08/10/23 11:17
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 18:20
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 15:18
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 19:59
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 13:54

Client Sample ID: MW-18-W-230810
Lab Sample ID: 410-138766-3
Date Collected: 08/10/23 12:25
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 18:44
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 15:43
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 20:22
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 14:16

Client Sample ID: D-06-W-230810
Lab Sample ID: 410-138766-4
Date Collected: 08/10/23 13:32
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 19:08
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 16:09
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 14:39

Client Sample ID: D-06-W-230810
Lab Sample ID: 410-138766-4

Date Collected: 08/10/23 13:32
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 14:13

Client Sample ID: D-14-W-230810
Lab Sample ID: 410-138766-5

Date Collected: 08/10/23 15:17
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 19:32
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 16:34
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 21:07
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 15:02

Client Sample ID: MW-19-W-230810
Lab Sample ID: 410-138766-6

Date Collected: 08/10/23 16:28
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 19:56
Total/NA	Analysis	NWTPH-Gx		1	410525	MXX6	ELLE	08/21/23 17:00
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 21:30
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 15:25

Client Sample ID: MW-38-W-230810
Lab Sample ID: 410-138766-7

Date Collected: 08/10/23 17:15
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 20:20
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 21:30
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 21:53
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 15:48

Client Sample ID: MW-37-W-230810
Lab Sample ID: 410-138766-8

Date Collected: 08/10/23 16:35
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 20:44
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 21:55
Total/NA	Prep	3510C			409930	QKX3	ELLE	08/17/23 07:54
Total/NA	Cleanup	3630C			410405	USL7	ELLE	08/21/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	410589	IUSB	ELLE	08/21/23 22:16
Total/NA	Prep	3510C			409269	QKX3	ELLE	08/17/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	409858	KP5X	ELLE	08/18/23 16:11

Client Sample ID: MW-36-W-230810
Lab Sample ID: 410-138766-9

Date Collected: 08/10/23 15:55
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 21:08
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 22:21
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/24/23 21:35
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 14:36

Client Sample ID: D-25-W-230810
Lab Sample ID: 410-138766-10

Date Collected: 08/10/23 10:40
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 21:32
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 22:47
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/24/23 21:57
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 14:58

Client Sample ID: D-26-W-230810
Lab Sample ID: 410-138766-11

Date Collected: 08/10/23 11:50
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 21:56
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 23:12
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/24/23 22:20

Lab Chronicle

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-26-W-230810
Lab Sample ID: 410-138766-11
Date Collected: 08/10/23 11:50
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 15:21

Client Sample ID: D-24-W-230810
Lab Sample ID: 410-138766-12
Date Collected: 08/10/23 14:40
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 18:16
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 00:29
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/24/23 23:28
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 16:29

Client Sample ID: D-01-W-230811
Lab Sample ID: 410-138766-13
Date Collected: 08/11/23 09:25
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 18:40
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 00:55
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/24/23 23:50
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 17:15

Client Sample ID: DUP-1-WD-230811
Lab Sample ID: 410-138766-14
Date Collected: 08/11/23 09:28
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 19:04
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 02:12
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 00:13
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 17:37

Client Sample ID: D-07-W-230811
Lab Sample ID: 410-138766-15

Date Collected: 08/11/23 08:52
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 19:28
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 02:37
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 00:58
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 18:00

Client Sample ID: MW-22-W-230811
Lab Sample ID: 410-138766-16

Date Collected: 08/11/23 09:59
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 19:52
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 03:03
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 01:21
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 18:23

Client Sample ID: DUP-2-WD-230811
Lab Sample ID: 410-138766-17

Date Collected: 08/11/23 00:00
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 20:16
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 03:29
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 01:44
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 18:45

Client Sample ID: D-03A-W-230811
Lab Sample ID: 410-138766-18

Date Collected: 08/11/23 10:50
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 20:40
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 03:54
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 02:07

Lab Chronicle

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-03A-W-230811
Lab Sample ID: 410-138766-18
Date Collected: 08/11/23 10:50
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 19:08

Client Sample ID: MW-32-W-230811
Lab Sample ID: 410-138766-19
Date Collected: 08/11/23 11:30
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	411025	MXX6	ELLE	08/22/23 21:03
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/23/23 04:20
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 02:29
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 19:31

Client Sample ID: RB-1-R-230811
Lab Sample ID: 410-138766-20
Date Collected: 08/11/23 11:55
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 17:32
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 21:04
Total/NA	Prep	3510C			411653	QJZ6	ELLE	08/23/23 16:04
Total/NA	Analysis	NWTPH-Dx		1	412227	KP5X	ELLE	08/25/23 03:15
Total/NA	Prep	3510C			411651	QJZ6	ELLE	08/23/23 16:01
Total/NA	Cleanup	3630C			412784	K2IL	ELLE	08/25/23 18:00
Total/NA	Analysis	NWTPH-Dx		1	413221	IUSB	ELLE	08/28/23 20:16

Client Sample ID: TB-3-T-230811
Lab Sample ID: 410-138766-21
Date Collected: 08/11/23 13:00
Matrix: Water
Date Received: 08/12/23 09:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	410669	MXX6	ELLE	08/21/23 17:08
Total/NA	Analysis	NWTPH-Gx		1	411251	MDQ6	ELLE	08/22/23 20:13

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-138766-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-138766-1	MW-14-W-230810	Water	08/10/23 09:41	08/12/23 09:48
410-138766-2	MW-13-W-230810	Water	08/10/23 11:17	08/12/23 09:48
410-138766-3	MW-18-W-230810	Water	08/10/23 12:25	08/12/23 09:48
410-138766-4	D-06-W-230810	Water	08/10/23 13:32	08/12/23 09:48
410-138766-5	D-14-W-230810	Water	08/10/23 15:17	08/12/23 09:48
410-138766-6	MW-19-W-230810	Water	08/10/23 16:28	08/12/23 09:48
410-138766-7	MW-38-W-230810	Water	08/10/23 17:15	08/12/23 09:48
410-138766-8	MW-37-W-230810	Water	08/10/23 16:35	08/12/23 09:48
410-138766-9	MW-36-W-230810	Water	08/10/23 15:55	08/12/23 09:48
410-138766-10	D-25-W-230810	Water	08/10/23 10:40	08/12/23 09:48
410-138766-11	D-26-W-230810	Water	08/10/23 11:50	08/12/23 09:48
410-138766-12	D-24-W-230810	Water	08/10/23 14:40	08/12/23 09:48
410-138766-13	D-01-W-230811	Water	08/11/23 09:25	08/12/23 09:48
410-138766-14	DUP-1-WD-230811	Water	08/11/23 09:28	08/12/23 09:48
410-138766-15	D-07-W-230811	Water	08/11/23 08:52	08/12/23 09:48
410-138766-16	MW-22-W-230811	Water	08/11/23 09:59	08/12/23 09:48
410-138766-17	DUP-2-WD-230811	Water	08/11/23 00:00	08/12/23 09:48
410-138766-18	D-03A-W-230811	Water	08/11/23 10:50	08/12/23 09:48
410-138766-19	MW-32-W-230811	Water	08/11/23 11:30	08/12/23 09:48
410-138766-20	RB-1-R-230811	Water	08/11/23 11:55	08/12/23 09:48
410-138766-21	TB-3-T-230811	Water	08/11/23 13:00	08/12/23 09:48

Chain of Custody

410-138766 Chain of Custody

Client Information	Sampler: L.Celovsky, S.Catlin	Lab P: Ame (lora	COC No:
Client Contact: Brad Wynne (bradley.wynne@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 972 358 4390 360 608 3212	E-Ma	Page: 1 of 2
Company: AECOM	PWSID:		Job #:
Address: 888 SW 5th Ave	Due Date Requested:		
City: Portland	TAT Requested (days): 10 business days		
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No		
Phone: 971 323 6262	PO #: 152363		
Email:	WO #:		
Project Name: CEMREC Legacy Sites - Tacoma	Project #:		
AECOM Project # 60701804	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx (with Silica Gel Cleanup)	BTEX + MTBE (EPA 8260D)	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-14-W-230810	8/10/23	941	G	W	N		X	X	X	X	8	
MW-13-W-230810		1117					X	X	X	X	8	
MW-18-W-230810		1225					X	X	X	X	8	
D-010-W-230810		1332					X	X	X	X	8	
D-14-W-230810		1517					X	X	X	X	8	
MW-19-W-230810		1628					X	X	X	X	8	
MW-38-W-230810		1715					X	X	X	X	10	Only 1 BTEX VOA
MW-37-W-230810		1635					X	X	X	X	8	
MW-36-W-230810		1555					X	X	X	X	8	
D-25-W-230810		1040					X	X	X	X	8	
D-20-W-230810		1150			X	X	X	X	X	X	8 LC 24	MS/MSD
D-24-W-230810		1440					X	X	X	X	8	
D-01-W-230811	8/11/23	0925	G	W			X	X	X	X	8	
~~D-03A-W-230811~~												
DUP-1-WD-230811		0928	G	W			X	X	X	X	8	
D-07-W-230811		0852										
MW-22-W-230811		0959										
DUP-2-WD-230811		0000										
D-03A-W-230811		1050										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		8/11/23 1400	ASCOM			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	8/12/23 9:48	ECLET

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Raw 3.9 - COR 3.6

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: L. Celovsky / S. Cahill	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Client Contact: Shira DeGrood (shira.degrood@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 971 323 6281 360 608 3212	E-Mail:	State of Origin:	Page: 1 of 2
Company: AECOM	PWSID:			Job #:
Address: 888 SW 5th Ave	Due Date Requested:			
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: ☐ Yes ☐ No			
Phone: 971 323 6262	PO #: 152363			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	BTEX + MTBE (EPA 8260D)	BTEX + MTBE (WSIM(A)	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-32-W-230811	8/11/23	1130	G	W	N		x	x	x	x	3	
RB-1-R-230811	8/11/23	1155	G	W	N		x	x	x		3	
TB-3-T-230811	↓	1300	↓	↓	↓		x	x	x		3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	8/11/23 1400	AECOM			
2				[signature]		
3				[signature]	8/14/23 9:48	ESET

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Raw 3.9 - COR 3.6
Raw 2.4 - COR 2.1

Ver: 01/16/2019

9/5/2023

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-138766-1

Login Number: 138766

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Ballard, Megan

Question	Answer	Comment
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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, 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.
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.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	False	Headspace greater than 6mm in diameter in some but not all containers

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-138766-1

Login Number: 138766

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 2

Creator: Arroyo, Haley

Question	Answer	Comment
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.	False	Water present in cooler; indicates evidence of melted ice
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, 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.
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Bradley Wynne
AECOM
13355 Noel Road
Suite 400
Dallas, Texas 75240

Generated 12/13/2023 2:05:37 AM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-151795-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
12/13/2023 2:05:37 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 8
Client Sample Results 11
Surrogate Summary 30
QC Sample Results 34
QC Association Summary 47
Lab Chronicle 54
Certification Summary 62
Method Summary 63
Sample Summary 64
Chain of Custody 65
Receipt Checklists 68

Definitions/Glossary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Qualifiers

GC VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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

Job ID: 410-151795-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-151795-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

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 may be 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.

Receipt
The samples were received on 11/17/2023 9:57 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 0.4°C, 0.5°C, 1.2°C and 4.8°C

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method NWTPH_Gx: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-31-W-231114 (410-151795-6). Elevated reporting limits (RLs) are provided.

Method NWTPH_Gx: The continuing calibration verification (CCV) analyzed on 410-446883 is compliant under 8260C/D method criteria for C7-C12 . The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the check passes the criteria with a value of 20% Drift.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: The surrogate recovery for the blank and laboratory control sample (LCS) associated with preparation batch 410-446260 and 410-447811 and analytical batch 410-448229 was outside the lower control limits.

Method NWTPH_Dx: Surrogate recovery for the following sample was outside of acceptance limits: MW-1D-W-231113 (410-151795-1). There was insufficient sample to perform a re-extraction; therefore, the data have been reported.

Method NWTPH_Dx: The method blank for preparation batch 410-448167 and 410-449581 contained C24-C40 with Silica Gel clean up above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. MW-38-W-231115 (410-151795-9), D-27-W-231115 (410-151795-18), MW-39-W-231115 (410-151795-19), D-12-W-231115 (410-151795-21), D-15-W-231115 (410-151795-22), MW-36-W-231115 (410-151795-23) and MW-37-W-231115 (410-151795-24)

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: MW-31-W-231114 (410-151795-6). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

Method NWTPH_Dx: The method blank for preparation batch 410-447356 and 410-449353 contained C12-C24 with Silica Gel clean up and C24-C40 with Silica Gel clean up above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. MW-31-W-231114 (410-151795-6), MW-12-W-231114 (410-151795-7) and D-08-W-231114 (410-151795-8)

Method NWTPH_Dx: The method blank for preparation batch 410-447356 and 410-449353 contained C12-C24 with Silica Gel clean up

Job ID: 410-151795-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

and C24-C40 with Silica Gel clean up above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. D-02A-W-231114 (410-151795-16)

Method NWTPH_Dx: The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 15%). When the -15.1% drift is evaluated to the whole number, the continuing calibration verification (CCV) passes the method criteria for o-terphenyl (Surr). D-02A-W-231114 (410-151795-16), D-25-W-231115 (410-151795-25), MW-29-W-231115 (410-151795-27), (410-151795-H-25-C DU) and (410-151795-H-27-C DU)

Method NWTPH_Dx: The method blank for preparation batch 410-447356 and 410-449353 contained C12-C24 with Silica Gel clean up and C24-C40 with Silica Gel clean up above the reporting limit (RL). There was insufficient sample to perform a re-extraction and/or re-analysis; therefore, the data have been reported.

Method NWTPH_Dx: Samples D-26-W-231115 (410-151795-10) and RMW-01-W-231115 (410-151795-20) had a detection for the C24-C40 range due to silica gel contamination. Sample was re-extracted outside of the method hold time. Re-extract was non-detect for the C24-C40 range.

Method NWTPH_Dx: Sample D-24-W-231115 (410-151795-11) had a detection for the C24-C40 range due to silica gel contamination. Sample was re-extracted outside of the method hold time. Re-extract had a detection for the C24-C40 range due to silica gel contamination.

Method NWTPH_Dx: Samples MW-26-W-231114 (410-151795-2) had a detection for the C24-C40 range due to silica gel contamination. Sample was re-extracted outside of the method hold time. Re-extract was non-detect for the C24-C40 range.

Method NWTPH_Dx: The continuing calibration verification (CCV) associated with batch 410-449762 recovered outside acceptance criteria, low biased, for C12-C24 with Silica Gel clean up, C24-C40 with Silica Gel clean up and o- terphenyl (Surr). There was no extract volume available to re-analyze the samples; therefore, the samples were re-extracted outside of method holding time. The data for the re-extraction is not usable due to laboratory error. There is no sample volume for a third trial. The original data is reported. D-17-W-231114 (410-151795-3), D-18-W-231114 (410-151795-12) and D-09-W-231114 (410-151795-14)

Method NWTPH_Dx: The method blank for preparation batch 410-446264 contained C12-C24 above the reporting limit (RL). There was insufficient sample to perform a re-extraction and/or re-analysis; therefore, the data have been reported.

MW-1D-W-231113 (410-151795-1) and (410-151795-H-1-B DU)

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: MW-31-W-231114 (410-151795-6). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Since holding time expired prior to re-analysis, results are reported from the initial trial.

Method NWTPH_Dx: The sample results were non-detect for C12-C24 and C24-C40, therefore the silica gel cleanup is not needed.

MW-38-W-231115 (410-151795-9) and MW-36-W-231115 (410-151795-23)

Method NWTPH_Dx: The sample results were non-detect for C12-C24 and C24-C40, therefore the silica gel cleanup is not needed. MW-23-W-231114 (410-151795-17)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-1D-W-231113 — Lab Sample ID: 410-151795-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	280	B cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	240	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-26-W-231114 — Lab Sample ID: 410-151795-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	470	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	90	J B *1 cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	270		250	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	330	B cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-17-W-231114 — Lab Sample ID: 410-151795-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	180	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-11-W-231114 — Lab Sample ID: 410-151795-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	430	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	280		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-19-W-231114 — Lab Sample ID: 410-151795-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	410	*1	100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	140	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-31-W-231114 — Lab Sample ID: 410-151795-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	71	J *1 cn	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-12-W-231114 — Lab Sample ID: 410-151795-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	82	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1500	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	630		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-08-W-231114 — Lab Sample ID: 410-151795-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	50	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1100	*1	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	360		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-38-W-231115 — Lab Sample ID: 410-151795-9

No Detections.

Client Sample ID: D-26-W-231115 — Lab Sample ID: 410-151795-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	170	F1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	250	B cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-24-W-231115 — Lab Sample ID: 410-151795-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	250		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	400	B cn	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-18-W-231114 — Lab Sample ID: 410-151795-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	640	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	320		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-30-W-231114 — Lab Sample ID: 410-151795-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	59	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	5300	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1600		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-09-W-231114 — Lab Sample ID: 410-151795-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	2400	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1100		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-24-W-231114 — Lab Sample ID: 410-151795-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	400	*1	100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	170	J	250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-02A-W-231114 — Lab Sample ID: 410-151795-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1200	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	540		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-23-W-231114 — Lab Sample ID: 410-151795-17

No Detections.

Client Sample ID: D-27-W-231115 — Lab Sample ID: 410-151795-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	360		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-39-W-231115 — Lab Sample ID: 410-151795-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	63	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	310		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: RMW-01-W-231115 — Lab Sample ID: 410-151795-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	250	cn	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1300		100	46	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: RMW-01-W-231115 (Continued) — Lab Sample ID: 410-151795-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24 with Silica Gel clean up	54	J cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	210	J	260	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	1000	B cn	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-12-W-231115 — Lab Sample ID: 410-151795-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	270		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	190	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-15-W-231115 — Lab Sample ID: 410-151795-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	260		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-36-W-231115 — Lab Sample ID: 410-151795-23

No Detections.

Client Sample ID: MW-37-W-231115 — Lab Sample ID: 410-151795-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	73	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-25-W-231115 — Lab Sample ID: 410-151795-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	1200	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	64	J cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	420		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-1-T-231115 — Lab Sample ID: 410-151795-26

No Detections.

Client Sample ID: MW-29-W-231115 — Lab Sample ID: 410-151795-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	580	cn	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	3000	*1	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	470		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB2-T-231115 — Lab Sample ID: 410-151795-28

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1D-W-231113
Lab Sample ID: 410-151795-1
Date Collected: 11/13/23 13:25
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 19:35	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 19:35	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 19:35	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 19:35	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 19:35*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/22/23 19:35*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/22/23 19:35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 19:35*	*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	43	ug/L			11/20/23 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/20/23 17:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**280**	**B cn**	100	46	ug/L		11/22/23 07:54	11/22/23 23:47	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/22/23 07:47	11/30/23 06:45	1
C24-C40	**240**	**J**	250	100	ug/L		11/22/23 07:54	11/22/23 23:47	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/22/23 07:47	11/30/23 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*11/22/23 07:54*	*11/22/23 23:47*	*1*
o- terphenyl (Surr)	*49*	*S1- cn*	*50 - 150*	*11/22/23 07:47*	*11/30/23 06:45*	*1*

Client Sample ID: MW-26-W-231114
Lab Sample ID: 410-151795-2
Date Collected: 11/14/23 09:35
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 19:59	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 19:59	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 19:59	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 19:59	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/22/23 19:59*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/22/23 19:59*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/22/23 19:59*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/23 19:59*	*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	43	ug/L			11/20/23 17:36	1

Client Sample ID: MW-26-W-231114
Lab Sample ID: 410-151795-2

Date Collected: 11/14/23 09:35
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/20/23 17:36*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**470**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 00:52	1
C12-C24 with Silica Gel clean up	**90**	**J B *1 cn**	100	46	ug/L		11/28/23 08:04	12/06/23 21:27	1
C24-C40	**270**		250	100	ug/L		11/28/23 08:09	11/29/23 00:52	1
C24-C40 with Silica Gel clean up	**330**	**B cn**	250	100	ug/L		11/28/23 08:04	12/06/23 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*11/28/23 08:09*	*11/29/23 00:52*	*1*
o- terphenyl (Surr)	*101*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/06/23 21:27*	*1*

Client Sample ID: D-17-W-231114
Lab Sample ID: 410-151795-3

Date Collected: 11/14/23 10:45
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 20:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 20:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 20:23	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 20:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 20:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/22/23 20:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/22/23 20:23*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/22/23 20:23*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/23 20:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/20/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/20/23 18:01*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**180**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 01:15	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/28/23 08:04	12/04/23 16:52	1
C24-C40	ND		250	100	ug/L		11/28/23 08:09	11/29/23 01:15	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/28/23 08:04	12/04/23 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*11/28/23 08:09*	*11/29/23 01:15*	*1*
o- terphenyl (Surr)	*70*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/04/23 16:52*	*1*

Client Sample ID: MW-11-W-231114
Lab Sample ID: 410-151795-4

Date Collected: 11/14/23 11:30
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 20:47	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 20:47	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 20:47	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 20:47	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/22/23 20:47*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/22/23 20:47*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/22/23 20:47*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/22/23 20:47*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/20/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/20/23 18:27*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**430**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 01:38	1
C12-C24 with Silica Gel clean up	ND	H	100	46	ug/L		12/07/23 15:43	12/09/23 01:30	1
C24-C40	**280**		260	100	ug/L		11/28/23 08:09	11/29/23 01:38	1
C24-C40 with Silica Gel clean up	ND	H	260	100	ug/L		12/07/23 15:43	12/09/23 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*11/28/23 08:09*	*11/29/23 01:38*	*1*
o- terphenyl (Surr)	*66*		*50 - 150*	*12/07/23 15:43*	*12/09/23 01:30*	*1*

Client Sample ID: D-19-W-231114
Lab Sample ID: 410-151795-5

Date Collected: 11/14/23 13:00
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 21:11	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 21:11	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 21:11	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 21:11	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/22/23 21:11*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/22/23 21:11*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/22/23 21:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/23 21:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/20/23 18:52	1

Client Sample ID: D-19-W-231114
Lab Sample ID: 410-151795-5

Date Collected: 11/14/23 13:00
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/20/23 18:52*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**410**	***1**	100	45	ug/L		11/28/23 08:09	11/29/23 02:01	1
C12-C24 with Silica Gel clean up	ND	H	100	46	ug/L		12/07/23 15:43	12/09/23 01:53	1
C24-C40	**140**	**J**	250	100	ug/L		11/28/23 08:09	11/29/23 02:01	1
C24-C40 with Silica Gel clean up	ND	H	250	100	ug/L		12/07/23 15:43	12/09/23 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*82*		*50 - 150*	*11/28/23 08:09*	*11/29/23 02:01*	*1*
o- terphenyl (Surr)	*64*		*50 - 150*	*12/07/23 15:43*	*12/09/23 01:53*	*1*

Client Sample ID: MW-31-W-231114
Lab Sample ID: 410-151795-6

Date Collected: 11/14/23 13:50
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 21:35	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 21:35	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 21:35	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 21:35	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 21:35*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/22/23 21:35*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/22/23 21:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/23 21:35*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	1300	220	ug/L			11/20/23 23:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*	*cn*	*50 - 150*		*11/20/23 23:58*	*5*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**71**	**J *1 cn**	100	46	ug/L		11/28/23 08:09	11/29/23 02:23	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		11/28/23 08:04	12/06/23 22:59	1
C24-C40	ND	cn	260	100	ug/L		11/28/23 08:09	11/29/23 02:23	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/28/23 08:04	12/06/23 22:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*34*	*S1- cn*	*50 - 150*	*11/28/23 08:09*	*11/29/23 02:23*	*1*
o- terphenyl (Surr)	*31*	*S1- cn*	*50 - 150*	*11/28/23 08:04*	*12/06/23 22:59*	*1*
n-Decanoic Acid (Surr)	*0.0009*	*cn*	*0 - 1*	*11/28/23 08:04*	*12/06/23 22:59*	*1*

Client Sample ID: MW-12-W-231114
Lab Sample ID: 410-151795-7

Date Collected: 11/14/23 15:40
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 21:58	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 21:58	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 21:58	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 21:58	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*11/22/23 21:58*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/22/23 21:58*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/22/23 21:58*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 21:58*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**82**	**J**	250	43	ug/L			11/21/23 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/21/23 19:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1500**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 02:46	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		11/28/23 08:04	12/06/23 23:22	1
C24-C40	**630**		260	100	ug/L		11/28/23 08:09	11/29/23 02:46	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/28/23 08:04	12/06/23 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*51*		*50 - 150*	*11/28/23 08:09*	*11/29/23 02:46*	*1*
o- terphenyl (Surr)	*53*		*50 - 150*	*11/28/23 08:04*	*12/06/23 23:22*	*1*
n-Decanoic Acid (Surr)	*0.002*		*0 - 1*	*11/28/23 08:04*	*12/06/23 23:22*	*1*

Client Sample ID: D-08-W-231114
Lab Sample ID: 410-151795-8

Date Collected: 11/14/23 16:35
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 22:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 22:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 22:23	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 22:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*		*11/22/23 22:23*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/22/23 22:23*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/22/23 22:23*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 22:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**50**	**J**	250	43	ug/L			11/21/23 20:52	1

Client Sample ID: D-08-W-231114
Lab Sample ID: 410-151795-8

Date Collected: 11/14/23 16:35
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/21/23 20:52*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1100**	***1**	100	47	ug/L		11/28/23 08:09	11/29/23 03:09	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	47	ug/L		11/28/23 08:04	12/06/23 23:45	1
C24-C40	**360**		260	100	ug/L		11/28/23 08:09	11/29/23 03:09	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/28/23 08:04	12/06/23 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*68*		*50 - 150*	*11/28/23 08:09*	*11/29/23 03:09*	*1*
o- terphenyl (Surr)	*76*		*50 - 150*	*11/28/23 08:04*	*12/06/23 23:45*	*1*
n-Decanoic Acid (Surr)	*0.0006*		*0 - 1*	*11/28/23 08:04*	*12/06/23 23:45*	*1*

Client Sample ID: MW-38-W-231115
Lab Sample ID: 410-151795-9

Date Collected: 11/15/23 09:25
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 15:06	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 15:06	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 15:06	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 15:06	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 15:06*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/26/23 15:06*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/26/23 15:06*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 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)	ND		250	43	ug/L			11/27/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 14:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	cn	100	46	ug/L		11/29/23 15:22	12/01/23 11:36	1
C24-C40	ND	cn	260	100	ug/L		11/29/23 15:22	12/01/23 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*11/29/23 15:22*	*12/01/23 11:36*	*1*

Client Sample ID: D-26-W-231115
Lab Sample ID: 410-151795-10

Date Collected: 11/15/23 10:25
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 15:30	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 15:30	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 15:30	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 15:30	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 15:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 15:30*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/26/23 15:30*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 15:30*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	F1	250	43	ug/L			11/27/23 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 15:15*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**170**	**F1**	100	46	ug/L		11/29/23 15:22	12/01/23 11:59	1
C12-C24 with Silica Gel clean up	ND	F1 cn	100	46	ug/L		11/29/23 15:27	12/04/23 16:06	1
C24-C40	ND		250	100	ug/L		11/29/23 15:22	12/01/23 11:59	1
C24-C40 with Silica Gel clean up	**250**	**B cn**	250	100	ug/L		11/29/23 15:27	12/04/23 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*80*		*50 - 150*	*11/29/23 15:22*	*12/01/23 11:59*	*1*
o- terphenyl (Surr)	*81*	*cn*	*50 - 150*	*11/29/23 15:27*	*12/04/23 16:06*	*1*

Client Sample ID: D-24-W-231115
Lab Sample ID: 410-151795-11

Date Collected: 11/15/23 12:00
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 16:42	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 16:42	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 16:42	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 16:42	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/26/23 16:42*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 16:42*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/26/23 16:42*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 16:42*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/27/23 16:32	1

Client Sample ID: D-24-W-231115
Lab Sample ID: 410-151795-11

Date Collected: 11/15/23 12:00
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/27/23 16:32*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**250**		100	46	ug/L		11/29/23 15:22	12/01/23 12:22	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/29/23 15:27	12/04/23 17:15	1
C24-C40	ND		250	100	ug/L		11/29/23 15:22	12/01/23 12:22	1
C24-C40 with Silica Gel clean up	**400**	**B cn**	250	100	ug/L		11/29/23 15:27	12/04/23 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*11/29/23 15:22*	*12/01/23 12:22*	*1*
o- terphenyl (Surr)	*75*	*cn*	*50 - 150*	*11/29/23 15:27*	*12/04/23 17:15*	*1*

Client Sample ID: D-18-W-231114
Lab Sample ID: 410-151795-12

Date Collected: 11/14/23 10:01
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 17:06	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 17:06	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 17:06	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 17:06	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 17:06*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 17:06*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/26/23 17:06*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 17:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/21/23 21:18*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**640**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 03:32	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/28/23 08:04	12/04/23 19:33	1
C24-C40	**320**		250	100	ug/L		11/28/23 08:09	11/29/23 03:32	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/28/23 08:04	12/04/23 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*11/28/23 08:09*	*11/29/23 03:32*	*1*
o- terphenyl (Surr)	*50*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/04/23 19:33*	*1*

Client Sample ID: MW-30-W-231114
Lab Sample ID: 410-151795-13

Date Collected: 11/14/23 11:01
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 17:30	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 17:30	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 17:30	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 17:30	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 17:30*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/26/23 17:30*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 17:30*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 17:30*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**59**	**J**	250	43	ug/L			11/21/23 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/21/23 21:43*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**5300**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 03:54	1
C12-C24 with Silica Gel clean up	ND	H	100	46	ug/L		12/07/23 15:43	12/09/23 02:39	1
C24-C40	**1600**		250	100	ug/L		11/28/23 08:09	11/29/23 03:54	1
C24-C40 with Silica Gel clean up	ND	H	250	100	ug/L		12/07/23 15:43	12/09/23 02:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*62*		*50 - 150*	*11/28/23 08:09*	*11/29/23 03:54*	*1*
o- terphenyl (Surr)	*68*		*50 - 150*	*12/07/23 15:43*	*12/09/23 02:39*	*1*

Client Sample ID: D-09-W-231114
Lab Sample ID: 410-151795-14

Date Collected: 11/14/23 12:25
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 17:54	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 17:54	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 17:54	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 17:54	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 17:54*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/26/23 17:54*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 17:54*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 17:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 22:09	1

Client Sample ID: D-09-W-231114
Lab Sample ID: 410-151795-14

Date Collected: 11/14/23 12:25
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/21/23 22:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2400**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 04:17	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/28/23 08:04	12/04/23 20:19	1
C24-C40	**1100**		260	100	ug/L		11/28/23 08:09	11/29/23 04:17	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/28/23 08:04	12/04/23 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*65*		*50 - 150*	*11/28/23 08:09*	*11/29/23 04:17*	*1*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/04/23 20:19*	*1*

Client Sample ID: MW-24-W-231114
Lab Sample ID: 410-151795-15

Date Collected: 11/14/23 14:03
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 18:18	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 18:18	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 18:18	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 18:18	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 18:18*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/26/23 18:18*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 18:18*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/26/23 18:18*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 22:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/21/23 22:34*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**400**	***1**	100	45	ug/L		11/28/23 08:09	11/29/23 05:02	1
C12-C24 with Silica Gel clean up	ND	H	100	46	ug/L		12/07/23 15:43	12/09/23 03:25	1
C24-C40	**170**	**J**	250	100	ug/L		11/28/23 08:09	11/29/23 05:02	1
C24-C40 with Silica Gel clean up	ND	H	250	100	ug/L		12/07/23 15:43	12/09/23 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*11/28/23 08:09*	*11/29/23 05:02*	*1*
o- terphenyl (Surr)	*59*		*50 - 150*	*12/07/23 15:43*	*12/09/23 03:25*	*1*

Client Sample ID: D-02A-W-231114
Lab Sample ID: 410-151795-16

Date Collected: 11/14/23 15:21
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 18:42	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 18:42	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 18:42	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 18:42	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 18:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/26/23 18:42*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 18:42*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/26/23 18:42*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/21/23 23:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 05:25	1
C12-C24 with Silica Gel clean up	ND	*1 cn	100	46	ug/L		11/28/23 08:04	12/06/23 21:50	1
C24-C40	**540**		260	100	ug/L		11/28/23 08:09	11/29/23 05:25	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/28/23 08:04	12/06/23 21:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*67*		*50 - 150*	*11/28/23 08:09*	*11/29/23 05:25*	*1*
o- terphenyl (Surr)	*79*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/06/23 21:50*	*1*

Client Sample ID: MW-23-W-231114
Lab Sample ID: 410-151795-17

Date Collected: 11/14/23 16:33
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 19:06	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 19:06	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 19:06	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 19:06	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/26/23 19:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/26/23 19:06*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 19:06*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 19:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 23:26	1

Client Sample ID: MW-23-W-231114
Lab Sample ID: 410-151795-17
Date Collected: 11/14/23 16:33
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/21/23 23:26*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	*1 cn	100	46	ug/L		11/28/23 08:09	11/29/23 05:48	1
C24-C40	ND	cn	250	100	ug/L		11/28/23 08:09	11/29/23 05:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*79*		*50 - 150*	*11/28/23 08:09*	*11/29/23 05:48*	*1*

Client Sample ID: D-27-W-231115
Lab Sample ID: 410-151795-18
Date Collected: 11/15/23 09:17
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 19:30	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 19:30	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 19:30	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 19:30	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 19:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 19:30*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/26/23 19:30*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 19:30*	*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	43	ug/L			11/27/23 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/27/23 16:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1300**		100	46	ug/L		11/29/23 15:22	12/01/23 12:44	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/29/23 15:27	12/04/23 17:38	1
C24-C40	**360**		250	100	ug/L		11/29/23 15:22	12/01/23 12:44	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/29/23 15:27	12/04/23 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*65*		*50 - 150*	*11/29/23 15:22*	*12/01/23 12:44*	*1*
o- terphenyl (Surr)	*72*		*50 - 150*	*11/29/23 15:27*	*12/04/23 17:38*	*1*

Client Sample ID: MW-39-W-231115
Lab Sample ID: 410-151795-19
Date Collected: 11/15/23 10:12
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 19:54	1

Client Sample ID: MW-39-W-231115
Lab Sample ID: 410-151795-19

Date Collected: 11/15/23 10:12
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 19:54	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 19:54	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 19:54	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/26/23 19:54*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 19:54*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/26/23 19:54*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 19:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**63**	**J**	250	43	ug/L			11/27/23 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*104*		*50 - 150*		*11/27/23 17:22*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2300**		100	46	ug/L		11/29/23 15:22	12/01/23 13:07	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/29/23 15:27	12/04/23 18:01	1
C24-C40	**310**		250	100	ug/L		11/29/23 15:22	12/01/23 13:07	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/29/23 15:27	12/04/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*62*		*50 - 150*	*11/29/23 15:22*	*12/01/23 13:07*	*1*
o- terphenyl (Surr)	*78*		*50 - 150*	*11/29/23 15:27*	*12/04/23 18:01*	*1*

Client Sample ID: RMW-01-W-231115
Lab Sample ID: 410-151795-20

Date Collected: 11/15/23 11:41
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 20:18	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 20:18	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 20:18	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 20:18	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 20:18*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/26/23 20:18*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/26/23 20:18*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/26/23 20:18*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**250**	**cn**	250	43	ug/L			11/27/23 18:39	1

Client Sample ID: RMW-01-W-231115
Lab Sample ID: 410-151795-20

Date Collected: 11/15/23 11:41
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 18:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1300**		100	46	ug/L		11/29/23 15:22	12/01/23 13:30	1
C12-C24 with Silica Gel clean up	**54**	**J cn**	100	46	ug/L		11/29/23 15:27	12/04/23 18:24	1
C24-C40	**210**	**J**	260	100	ug/L		11/29/23 15:22	12/01/23 13:30	1
C24-C40 with Silica Gel clean up	**1000**	**B cn**	260	100	ug/L		11/29/23 15:27	12/04/23 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*72*		*50 - 150*	*11/29/23 15:22*	*12/01/23 13:30*	*1*
o- terphenyl (Surr)	*64*	*cn*	*50 - 150*	*11/29/23 15:27*	*12/04/23 18:24*	*1*

Client Sample ID: D-12-W-231115
Lab Sample ID: 410-151795-21

Date Collected: 11/15/23 12:43
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 20:42	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 20:42	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 20:42	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 20:42	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 20:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/26/23 20:42*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 20:42*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 20:42*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	250	43	ug/L			11/27/23 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/27/23 19:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**270**		100	46	ug/L		11/29/23 15:22	12/01/23 13:52	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/29/23 15:27	12/04/23 18:47	1
C24-C40	**190**	**J**	260	100	ug/L		11/29/23 15:22	12/01/23 13:52	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/29/23 15:27	12/04/23 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*71*		*50 - 150*	*11/29/23 15:22*	*12/01/23 13:52*	*1*
o- terphenyl (Surr)	*64*		*50 - 150*	*11/29/23 15:27*	*12/04/23 18:47*	*1*

Client Sample ID: D-15-W-231115
Lab Sample ID: 410-151795-22

Date Collected: 11/15/23 13:58
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 21:06	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 21:06	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 21:06	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 21:06	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 21:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 21:06*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/26/23 21:06*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 21:06*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 21:06*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	250	43	ug/L			11/27/23 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/27/23 19:29*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1300**		100	46	ug/L		11/29/23 15:22	12/01/23 14:15	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/29/23 15:27	12/04/23 19:10	1
C24-C40	**260**		250	100	ug/L		11/29/23 15:22	12/01/23 14:15	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/29/23 15:27	12/04/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*64*		*50 - 150*	*11/29/23 15:22*	*12/01/23 14:15*	*1*
o- terphenyl (Surr)	*74*		*50 - 150*	*11/29/23 15:27*	*12/04/23 19:10*	*1*

Client Sample ID: MW-36-W-231115
Lab Sample ID: 410-151795-23

Date Collected: 11/15/23 12:55
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 21:30	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 21:30	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 21:30	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 21:30	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 21:30*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/26/23 21:30*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 21:30*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/26/23 21:30*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	250	43	ug/L			11/27/23 19:55	1

Client Sample ID: MW-36-W-231115
Lab Sample ID: 410-151795-23
Date Collected: 11/15/23 12:55
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 19:55*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND	cn	100	46	ug/L		11/29/23 15:22	12/01/23 14:38	1
C24-C40	ND	cn	260	100	ug/L		11/29/23 15:22	12/01/23 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*73*		*50 - 150*	*11/29/23 15:22*	*12/01/23 14:38*	*1*

Client Sample ID: MW-37-W-231115
Lab Sample ID: 410-151795-24
Date Collected: 11/15/23 13:55
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 21:54	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 21:54	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 21:54	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 21:54	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 21:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 21:54*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/26/23 21:54*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 21:54*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 21:54*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	250	43	ug/L			11/27/23 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 20:20*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**73**	**J**	100	46	ug/L		11/29/23 15:22	12/01/23 15:01	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/29/23 15:27	12/04/23 19:56	1
C24-C40	ND		260	100	ug/L		11/29/23 15:22	12/01/23 15:01	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/29/23 15:27	12/04/23 19:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*73*		*50 - 150*	*11/29/23 15:22*	*12/01/23 15:01*	*1*
o- terphenyl (Surr)	*58*		*50 - 150*	*11/29/23 15:27*	*12/04/23 19:56*	*1*

Client Sample ID: D-25-W-231115
Lab Sample ID: 410-151795-25
Date Collected: 11/15/23 14:50
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 22:18	1

Client Sample ID: D-25-W-231115
Lab Sample ID: 410-151795-25

Date Collected: 11/15/23 14:50
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 22:18	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 22:18	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 22:18	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/26/23 22:18*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/26/23 22:18*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 22:18*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/26/23 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	cn	250	43	ug/L			11/27/23 20:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/27/23 20:46*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1200**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 06:11	1
C12-C24 with Silica Gel clean up	**64**	**J cn**	100	46	ug/L		11/28/23 08:04	12/06/23 22:36	1
C24-C40	**420**		250	100	ug/L		11/28/23 08:09	11/29/23 06:11	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/28/23 08:04	12/06/23 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*66*		*50 - 150*	*11/28/23 08:09*	*11/29/23 06:11*	*1*
o- terphenyl (Surr)	*80*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/06/23 22:36*	*1*

Client Sample ID: TB-1-T-231115
Lab Sample ID: 410-151795-26

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 15:59	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 15:59	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 15:59	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 15:59	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 15:59*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/22/23 15:59*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/22/23 15:59*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 15:59*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	H H3	250	43	ug/L			11/20/23 16:44	1

Client Sample ID: TB-1-T-231115
Lab Sample ID: 410-151795-26

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/20/23 16:44*	*1*

Client Sample ID: MW-29-W-231115
Lab Sample ID: 410-151795-27

Date Collected: 11/15/23 14:58
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/26/23 22:42	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 22:42	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 22:42	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 22:42	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/26/23 22:42*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/26/23 22:42*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/26/23 22:42*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/26/23 22:42*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**580**	**cn**	250	43	ug/L			11/27/23 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 21:11*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**3000**	***1**	100	46	ug/L		11/28/23 08:09	11/29/23 06:56	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		11/28/23 08:04	12/06/23 23:22	1
C24-C40	**470**		250	100	ug/L		11/28/23 08:09	11/29/23 06:56	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		11/28/23 08:04	12/06/23 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*59*		*50 - 150*	*11/28/23 08:09*	*11/29/23 06:56*	*1*
o- terphenyl (Surr)	*71*	*cn*	*50 - 150*	*11/28/23 08:04*	*12/06/23 23:22*	*1*

Client Sample ID: TB2-T-231115
Lab Sample ID: 410-151795-28

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - 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			11/22/23 16:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 16:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 16:23	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 16:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 16:23*	*1*

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB2-T-231115
Lab Sample ID: 410-151795-28
Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/22/23 16:23*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/22/23 16:23*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/22/23 16:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	H H3	250	43	ug/L			11/20/23 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/20/23 17:09*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-151795-1	MW-1D-W-231113	94	97	99	99
410-151795-2	MW-26-W-231114	93	98	99	100
410-151795-3	D-17-W-231114	93	96	97	100
410-151795-4	MW-11-W-231114	92	98	97	101
410-151795-5	D-19-W-231114	93	97	97	100
410-151795-6	MW-31-W-231114	94	98	97	100
410-151795-7	MW-12-W-231114	95	97	98	99
410-151795-8	D-08-W-231114	95	95	99	99
410-151795-9	MW-38-W-231115	91	100	96	98
410-151795-10	D-26-W-231115	92	98	98	98
410-151795-10 MS	D-26-W-231115	95	98	98	99
410-151795-10 MSD	D-26-W-231115	94	99	98	96
410-151795-11	D-24-W-231115	93	98	98	99
410-151795-12	D-18-W-231114	92	98	96	98
410-151795-13	MW-30-W-231114	91	97	99	98
410-151795-14	D-09-W-231114	91	100	99	99
410-151795-15	MW-24-W-231114	92	97	99	100
410-151795-16	D-02A-W-231114	91	97	99	97
410-151795-17	MW-23-W-231114	93	99	99	98
410-151795-18	D-27-W-231115	91	98	98	99
410-151795-19	MW-39-W-231115	93	98	100	99
410-151795-20	RMW-01-W-231115	92	99	101	97
410-151795-21	D-12-W-231115	92	97	99	98
410-151795-22	D-15-W-231115	92	100	99	98
410-151795-23	MW-36-W-231115	91	95	99	98
410-151795-24	MW-37-W-231115	91	99	99	99
410-151795-25	D-25-W-231115	91	97	99	99
410-151795-26	TB-1-T-231115	94	96	99	99
410-151795-27	MW-29-W-231115	92	100	99	96
410-151795-28	TB2-T-231115	94	97	98	100
LCS 410-446440/4	Lab Control Sample	95	99	99	99
LCS 410-446766/4	Lab Control Sample	93	100	99	98
LCSD 410-446440/5	Lab Control Sample Dup	98	98	100	99
LCSD 410-446766/5	Lab Control Sample Dup	95	100	98	98
MB 410-446440/6	Method Blank	94	96	101	98
MB 410-446766/6	Method Blank	93	98	98	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-151795-1	MW-1D-W-231113	98

Surrogate Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		TFT-F1							
Lab Sample ID	Client Sample ID	(50-150)							
410-151795-2	MW-26-W-231114	98							
410-151795-3	D-17-W-231114	97							
410-151795-4	MW-11-W-231114	97							
410-151795-5	D-19-W-231114	97							
410-151795-6	MW-31-W-231114	97 cn							
410-151795-7	MW-12-W-231114	99							
410-151795-8	D-08-W-231114	100							
410-151795-9	MW-38-W-231115	99							
410-151795-10	D-26-W-231115	99							
410-151795-10 MS	D-26-W-231115	94							
410-151795-10 MSD	D-26-W-231115	96							
410-151795-11	D-24-W-231115	100							
410-151795-12	D-18-W-231114	101							
410-151795-13	MW-30-W-231114	100							
410-151795-14	D-09-W-231114	101							
410-151795-15	MW-24-W-231114	99							
410-151795-16	D-02A-W-231114	100							
410-151795-17	MW-23-W-231114	101							
410-151795-18	D-27-W-231115	101							
410-151795-19	MW-39-W-231115	104							
410-151795-20	RMW-01-W-231115	99							
410-151795-21	D-12-W-231115	98							
410-151795-22	D-15-W-231115	100							
410-151795-23	MW-36-W-231115	99							
410-151795-24	MW-37-W-231115	99							
410-151795-25	D-25-W-231115	100							
410-151795-26	TB-1-T-231115	100							
410-151795-27	MW-29-W-231115	99							
410-151795-28	TB2-T-231115	101							
LCS 410-445458/6	Lab Control Sample	91							
LCS 410-445460/6	Lab Control Sample	91							
LCS 410-445905/6	Lab Control Sample	92							
LCS 410-446883/6	Lab Control Sample	90							
LCS 410-448447/6	Lab Control Sample	93							
LCSD 410-445458/7	Lab Control Sample Dup	91							
LCSD 410-445460/7	Lab Control Sample Dup	91							
LCSD 410-445905/7	Lab Control Sample Dup	93							
LCSD 410-446883/7	Lab Control Sample Dup	91							
LCSD 410-448447/7	Lab Control Sample Dup	96							
MB 410-445458/5	Method Blank	102							
MB 410-445460/5	Method Blank	98							
MB 410-445905/5	Method Blank	102							
MB 410-446883/5	Method Blank	99							
MB 410-448447/5	Method Blank	102							

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Surrogate Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		OTP	NDA								
Lab Sample ID	Client Sample ID	(50-150)	(0-1)								
410-151795-1	MW-1D-W-231113	79									
410-151795-1	MW-1D-W-231113	49 S1- cn									
410-151795-1 DU	MW-1D-W-231113	84									
410-151795-2	MW-26-W-231114	79									
410-151795-2	MW-26-W-231114	101 cn									
410-151795-3	D-17-W-231114	83									
410-151795-3	D-17-W-231114	70 cn									
410-151795-4	MW-11-W-231114	73									
410-151795-4	MW-11-W-231114	66									
410-151795-5	D-19-W-231114	82									
410-151795-5	D-19-W-231114	64									
410-151795-6	MW-31-W-231114	34 S1- cn									
410-151795-6	MW-31-W-231114	31 S1- cn	0.0009 cn								
410-151795-7	MW-12-W-231114	51									
410-151795-7	MW-12-W-231114	53	0.002								
410-151795-8	D-08-W-231114	68									
410-151795-8	D-08-W-231114	76	0.0006								
410-151795-9	MW-38-W-231115	72									
410-151795-10	D-26-W-231115	80									
410-151795-10	D-26-W-231115	81 cn									
410-151795-10 MS	D-26-W-231115	72									
410-151795-10 MS	D-26-W-231115	60									
410-151795-10 MSD	D-26-W-231115	65									
410-151795-10 MSD	D-26-W-231115	60									
410-151795-11	D-24-W-231115	75									
410-151795-11	D-24-W-231115	75 cn									
410-151795-12	D-18-W-231114	74									
410-151795-12	D-18-W-231114	50 cn									
410-151795-13	MW-30-W-231114	62									
410-151795-13	MW-30-W-231114	68									
410-151795-14	D-09-W-231114	65									
410-151795-14	D-09-W-231114	62 cn									
410-151795-15	MW-24-W-231114	75									
410-151795-15	MW-24-W-231114	59									
410-151795-16	D-02A-W-231114	67									
410-151795-16	D-02A-W-231114	79 cn									
410-151795-17	MW-23-W-231114	79									
410-151795-18	D-27-W-231115	65									
410-151795-18	D-27-W-231115	72									
410-151795-19	MW-39-W-231115	62									
410-151795-19	MW-39-W-231115	78									
410-151795-20	RMW-01-W-231115	72									
410-151795-20	RMW-01-W-231115	64 cn									
410-151795-21	D-12-W-231115	71									
410-151795-21	D-12-W-231115	64									
410-151795-22	D-15-W-231115	64									
410-151795-22	D-15-W-231115	74									
410-151795-23	MW-36-W-231115	73									
410-151795-24	MW-37-W-231115	73									
410-151795-24	MW-37-W-231115	58									

Surrogate Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	OTP (50-150)	NDA (0-1)								
410-151795-25	D-25-W-231115	66									
410-151795-25	D-25-W-231115	80 cn									
410-151795-25 DU	D-25-W-231115	71									
410-151795-27	MW-29-W-231115	59									
410-151795-27	MW-29-W-231115	71 cn									
410-151795-27 DU	MW-29-W-231115	72									
410-151795-H-25-C DU	410-151795-H-25-C DU	55 cn									
410-151795-H-27-C DU	410-151795-H-27-C DU	70 cn									
LCS 410-446260/2-B	Lab Control Sample	47 S1-									
LCS 410-446264/2-A	Lab Control Sample	76									
LCS 410-447356/2-B	Lab Control Sample	57									
LCS 410-447356/2-B	Lab Control Sample	86	0.02								
LCS 410-447360/2-A	Lab Control Sample	67									
LCS 410-448163/2-A	Lab Control Sample	81									
LCS 410-448167/2-B	Lab Control Sample	76									
LCS 410-451387/2-B	Lab Control Sample	65									
LCSD 410-447356/3-C	Lab Control Sample Dup	58									
LCSD 410-447356/3-C	Lab Control Sample Dup	87	0.01								
LCSD 410-447360/3-A	Lab Control Sample Dup	82									
LCSD 410-451387/3-B	Lab Control Sample Dup	55									
MB 410-446260/1-B	Method Blank	46 S1-									
MB 410-446264/1-A	Method Blank	81									
MB 410-447356/1-B	Method Blank	60									
MB 410-447356/1-B	Method Blank	97	0.02								
MB 410-447360/1-A	Method Blank	78									
MB 410-448163/1-A	Method Blank	72									
MB 410-448167/1-B	Method Blank	81									
MB 410-451387/1-B	Method Blank	53									

Surrogate Legend

OTP = o- terphenyl (Surr)

NDA = n-Decanoic Acid (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-446440/6
Matrix: Water
Analysis Batch: 446440

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			11/22/23 14:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 14:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 14:24	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 14:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 14:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 14:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/22/23 14:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/22/23 14:24*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/22/23 14:24*	*1*

Lab Sample ID: LCS 410-446440/4
Matrix: Water
Analysis Batch: 446440

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	19.0		ug/L		95	80 - 120		
Ethylbenzene			20.0	18.6		ug/L		93	80 - 120		
Methyl tertiary butyl ether			20.0	19.9		ug/L		100	69 - 122		
Toluene			20.0	18.9		ug/L		94	80 - 120		
Xylenes, Total			60.0	57.5		ug/L		96	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 410-446440/5
Matrix: Water
Analysis Batch: 446440

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	18.6		ug/L		93	80 - 120	2	30
Ethylbenzene			20.0	18.0		ug/L		90	80 - 120	3	30
Methyl tertiary butyl ether			20.0	18.7		ug/L		93	69 - 122	7	30
Toluene			20.0	18.4		ug/L		92	80 - 120	2	30
Xylenes, Total			60.0	55.9		ug/L		93	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-446766/6
Matrix: Water
Analysis Batch: 446766

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			11/26/23 13:54	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/26/23 13:54	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/26/23 13:54	1
Toluene	ND		1.0	0.30	ug/L			11/26/23 13:54	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/26/23 13:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/26/23 13:54*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/26/23 13:54*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/26/23 13:54*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/26/23 13:54*	*1*

Lab Sample ID: LCS 410-446766/4
Matrix: Water
Analysis Batch: 446766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	17.0		ug/L		85	80 - 120		
Ethylbenzene			20.0	16.9		ug/L		85	80 - 120		
Methyl tertiary butyl ether			20.0	18.2		ug/L		91	69 - 122		
Toluene			20.0	16.8		ug/L		84	80 - 120		
Xylenes, Total			60.0	52.0		ug/L		87	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 410-446766/5
Matrix: Water
Analysis Batch: 446766

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	18.9		ug/L		95	80 - 120	10	30
Ethylbenzene			20.0	18.7		ug/L		93	80 - 120	10	30
Methyl tertiary butyl ether			20.0	19.7		ug/L		99	69 - 122	8	30
Toluene			20.0	18.6		ug/L		93	80 - 120	10	30
Xylenes, Total			60.0	57.7		ug/L		96	80 - 120	10	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-151795-10 MS
Matrix: Water
Analysis Batch: 446766

Client Sample ID: D-26-W-231115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	19.1		ug/L		95	80 - 120
Ethylbenzene	ND		20.0	18.7		ug/L		94	80 - 120
Methyl tertiary butyl ether	ND		20.0	18.7		ug/L		94	69 - 122
Toluene	ND		20.0	18.5		ug/L		92	80 - 120
Xylenes, Total	ND		60.0	57.6		ug/L		96	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 410-151795-10 MSD
Matrix: Water
Analysis Batch: 446766

Client Sample ID: D-26-W-231115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		20.0	20.3		ug/L		102	80 - 120	6	30
Ethylbenzene	ND		20.0	19.9		ug/L		100	80 - 120	6	30
Methyl tertiary butyl ether	ND		20.0	20.1		ug/L		101	69 - 122	7	30
Toluene	ND		20.0	19.2		ug/L		96	80 - 120	4	30
Xylenes, Total	ND		60.0	60.1		ug/L		100	80 - 120	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-445458/5
Matrix: Water
Analysis Batch: 445458

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	43	ug/L			11/20/23 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/20/23 12:58*	*1*

Lab Sample ID: LCS 410-445458/6
Matrix: Water
Analysis Batch: 445458

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

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-445458/6
Matrix: Water
Analysis Batch: 445458

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Lab Sample ID: LCSD 410-445458/7
Matrix: Water
Analysis Batch: 445458

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	1110		ug/L		101	64 - 131	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Lab Sample ID: MB 410-445460/5
Matrix: Water
Analysis Batch: 445460

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	43	ug/L			11/20/23 12:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	98		50 - 150		11/20/23 12:57	1

Lab Sample ID: LCS 410-445460/6
Matrix: Water
Analysis Batch: 445460

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	928		ug/L		84	64 - 131		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Lab Sample ID: LCSD 410-445460/7
Matrix: Water
Analysis Batch: 445460

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	911		ug/L		83	64 - 131	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-445905/5
Matrix: Water
Analysis Batch: 445905

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	43	ug/L			11/21/23 13:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/21/23 13:08*	*1*

Lab Sample ID: LCS 410-445905/6
Matrix: Water
Analysis Batch: 445905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1080		ug/L		98	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*92*		*50 - 150*

Lab Sample ID: LCSD 410-445905/7
Matrix: Water
Analysis Batch: 445905

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	1110		ug/L		101	64 - 131	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*

Lab Sample ID: MB 410-446883/5
Matrix: Water
Analysis Batch: 446883

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	43	ug/L			11/27/23 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/27/23 11:01*	*1*

Lab Sample ID: LCS 410-446883/6
Matrix: Water
Analysis Batch: 446883

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	897		ug/L		82	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 410-446883/7
Matrix: Water
Analysis Batch: 446883

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	927		ug/L		84	64 - 131	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*91*		*50 - 150*

Lab Sample ID: MB 410-448447/5
Matrix: Water
Analysis Batch: 448447

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	43	ug/L			11/30/23 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/30/23 12:27*	*1*

Lab Sample ID: LCS 410-448447/6
Matrix: Water
Analysis Batch: 448447

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1090		ug/L		99	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*

Lab Sample ID: LCSD 410-448447/7
Matrix: Water
Analysis Batch: 448447

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1140		ug/L		104	64 - 131	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*

Lab Sample ID: 410-151795-10 MS
Matrix: Water
Analysis Batch: 448447

Client Sample ID: D-26-W-231115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND	F1	1120	1250	H	ug/L		112	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*94*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-151795-10 MSD
Matrix: Water
Analysis Batch: 448447

Client Sample ID: D-26-W-231115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND	F1	1120	1270	H	ug/L		114	80 - 120	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-446260/1-B
Matrix: Water
Analysis Batch: 448229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446260

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		11/22/23 07:47	11/29/23 23:28	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		11/22/23 07:47	11/29/23 23:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*46*	*S1-*	*50 - 150*	*11/22/23 07:47*	*11/29/23 23:28*	*1*

Lab Sample ID: LCS 410-446260/2-B
Matrix: Water
Analysis Batch: 448229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446260

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	338		ug/L		56	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*47*	*S1-*	*50 - 150*

Lab Sample ID: MB 410-446264/1-A
Matrix: Water
Analysis Batch: 446556

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446264

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	45.2	J	100	45	ug/L		11/22/23 07:54	11/22/23 16:37	1
C24-C40	ND		250	100	ug/L		11/22/23 07:54	11/22/23 16:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*11/22/23 07:54*	*11/22/23 16:37*	*1*

Lab Sample ID: LCS 410-446264/2-A
Matrix: Water
Analysis Batch: 446556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446264

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			600	457		ug/L		76	14 - 115		

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-446264/2-A
Matrix: Water
Analysis Batch: 446556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446264

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o- terphenyl (Surr)	76		50 - 150

Lab Sample ID: 410-151795-1 DU
Matrix: Water
Analysis Batch: 446556

Client Sample ID: MW-1D-W-231113
Prep Type: Total/NA
Prep Batch: 446264

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	280	B cn		270	cn	ug/L				4	20
C24-C40	240	J		251		ug/L				4	20

Surrogate	DU %Recovery	DU Qualifier	Limits
o- terphenyl (Surr)	84		50 - 150

Lab Sample ID: MB 410-447356/1-B
Matrix: Water
Analysis Batch: 449762

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		11/28/23 08:04	12/04/23 15:19	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		11/28/23 08:04	12/04/23 15:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	60		50 - 150	11/28/23 08:04	12/04/23 15:19	1

Lab Sample ID: MB 410-447356/1-B
Matrix: Water
Analysis Batch: 450931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	80.5	J	100	45	ug/L		11/28/23 08:04	12/06/23 20:18	1
C24-C40 with Silica Gel clean up	337		250	100	ug/L		11/28/23 08:04	12/06/23 20:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	97		50 - 150	11/28/23 08:04	12/06/23 20:18	1
n-Decanoic Acid (Surr)	0.02		0 - 1	11/28/23 08:04	12/06/23 20:18	1

Lab Sample ID: LCS 410-447356/2-B
Matrix: Water
Analysis Batch: 449762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447356

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	186		ug/L		31	14 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o- terphenyl (Surr)	57		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-447356/2-B
Matrix: Water
Analysis Batch: 450931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447356

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	296		ug/L		49	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*86*		*50 - 150*
n-Decanoic Acid (Surr)	*0.02*		*0 - 1*

Lab Sample ID: LCSD 410-447356/3-C
Matrix: Water
Analysis Batch: 449762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447356

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	203		ug/L		34	14 - 115	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*58*		*50 - 150*

Lab Sample ID: LCSD 410-447356/3-C
Matrix: Water
Analysis Batch: 450931

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447356

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	429	*1	ug/L		72	14 - 115	37	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*87*		*50 - 150*
n-Decanoic Acid (Surr)	*0.01*		*0 - 1*

Lab Sample ID: 410-151795-H-25-C DU
Matrix: Water
Analysis Batch: 450932

Client Sample ID: 410-151795-H-25-C DU
Prep Type: Total/NA
Prep Batch: 447356

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	64	J cn		ND		ug/L				NC	20
C24-C40 with Silica Gel clean up	ND	cn		ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*55*	*cn*	*50 - 150*

Lab Sample ID: 410-151795-H-27-C DU
Matrix: Water
Analysis Batch: 450932

Client Sample ID: 410-151795-H-27-C DU
Prep Type: Total/NA
Prep Batch: 447356

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND			ND		ug/L				NC	20
C24-C40 with Silica Gel clean up	ND			ND		ug/L				NC	20

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-151795-H-27-C DU
Matrix: Water
Analysis Batch: 450932

Client Sample ID: 410-151795-H-27-C DU
Prep Type: Total/NA
Prep Batch: 447356

Surrogate	DU %Recovery	DU Qualifier	Limits
o- terphenyl (Surr)	70	cn	50 - 150

Lab Sample ID: MB 410-447360/1-A
Matrix: Water
Analysis Batch: 447751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447360

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		11/28/23 08:09	11/28/23 23:44	1
C24-C40	ND		250	100	ug/L		11/28/23 08:09	11/28/23 23:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	78		50 - 150	11/28/23 08:09	11/28/23 23:44	1

Lab Sample ID: LCS 410-447360/2-A
Matrix: Water
Analysis Batch: 447751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447360

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			600	215		ug/L		36	14 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o- terphenyl (Surr)	67		50 - 150

Lab Sample ID: LCSD 410-447360/3-A
Matrix: Water
Analysis Batch: 447751

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447360

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			600	283	*1	ug/L		47	14 - 115	27	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o- terphenyl (Surr)	82		50 - 150

Lab Sample ID: 410-151795-25 DU
Matrix: Water
Analysis Batch: 447751

Client Sample ID: D-25-W-231115
Prep Type: Total/NA
Prep Batch: 447360

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	1200	*1		1220	*1	ug/L				6	20
C24-C40	420			478		ug/L				12	20

Surrogate	DU %Recovery	DU Qualifier	Limits
o- terphenyl (Surr)	71		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-151795-27 DU
Client Sample ID: MW-29-W-231115
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 447751
Prep Batch: 447360

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	3000	*1		3390	*1	ug/L				12	20
C24-C40	470			555		ug/L				17	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*72*		*50 - 150*

Lab Sample ID: MB 410-448163/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 448780
Prep Batch: 448163

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		11/29/23 15:22	12/01/23 05:32	1
C24-C40	ND		250	100	ug/L		11/29/23 15:22	12/01/23 05:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*11/29/23 15:22*	*12/01/23 05:32*	*1*

Lab Sample ID: LCS 410-448163/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 448780
Prep Batch: 448163

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			600	274		ug/L		46	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*81*		*50 - 150*

Lab Sample ID: 410-151795-10 MS
Client Sample ID: D-26-W-231115
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 448780
Prep Batch: 448163

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	170	F1	622	311	F1	ug/L		23	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*72*		*50 - 150*

Lab Sample ID: 410-151795-10 MSD
Client Sample ID: D-26-W-231115
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 448780
Prep Batch: 448163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	170	F1	618	298	F1	ug/L		21	30 - 115	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*65*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-448167/1-B
Matrix: Water
Analysis Batch: 449747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		11/29/23 15:27	12/04/23 12:38	1
C24-C40 with Silica Gel clean up	359		250	100	ug/L		11/29/23 15:27	12/04/23 12:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*81*		*50 - 150*	*11/29/23 15:27*	*12/04/23 12:38*	*1*

Lab Sample ID: LCS 410-448167/2-B
Matrix: Water
Analysis Batch: 449747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448167

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	218		ug/L		36	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*76*		*50 - 150*

Lab Sample ID: 410-151795-10 MS
Matrix: Water
Analysis Batch: 449747

Client Sample ID: D-26-W-231115
Prep Type: Total/NA
Prep Batch: 448167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up	ND	F1 cn	621	173	F1	ug/L		28	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*60*		*50 - 150*

Lab Sample ID: 410-151795-10 MSD
Matrix: Water
Analysis Batch: 449747

Client Sample ID: D-26-W-231115
Prep Type: Total/NA
Prep Batch: 448167

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	F1 cn	618	160	F1	ug/L		26	30 - 115	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*60*		*50 - 150*

Lab Sample ID: MB 410-451387/1-B
Matrix: Water
Analysis Batch: 451978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451387

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		12/07/23 15:43	12/08/23 23:12	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		12/07/23 15:43	12/08/23 23:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*53*		*50 - 150*	*12/07/23 15:43*	*12/08/23 23:12*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-451387/2-B
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 451978
Prep Batch: 451387

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	192		ug/L		32	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*65*		*50 - 150*

Lab Sample ID: LCSD 410-451387/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 451978
Prep Batch: 451387

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	164		ug/L		27	14 - 115	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*55*		*50 - 150*

GC/MS VOA

Analysis Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	8260D/UST	
410-151795-2	MW-26-W-231114	Total/NA	Water	8260D/UST	
410-151795-3	D-17-W-231114	Total/NA	Water	8260D/UST	
410-151795-4	MW-11-W-231114	Total/NA	Water	8260D/UST	
410-151795-5	D-19-W-231114	Total/NA	Water	8260D/UST	
410-151795-6	MW-31-W-231114	Total/NA	Water	8260D/UST	
410-151795-7	MW-12-W-231114	Total/NA	Water	8260D/UST	
410-151795-8	D-08-W-231114	Total/NA	Water	8260D/UST	
410-151795-26	TB-1-T-231115	Total/NA	Water	8260D/UST	
410-151795-28	TB2-T-231115	Total/NA	Water	8260D/UST	
MB 410-446440/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-446440/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-446440/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 446766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-9	MW-38-W-231115	Total/NA	Water	8260D/UST	
410-151795-10	D-26-W-231115	Total/NA	Water	8260D/UST	
410-151795-11	D-24-W-231115	Total/NA	Water	8260D/UST	
410-151795-12	D-18-W-231114	Total/NA	Water	8260D/UST	
410-151795-13	MW-30-W-231114	Total/NA	Water	8260D/UST	
410-151795-14	D-09-W-231114	Total/NA	Water	8260D/UST	
410-151795-15	MW-24-W-231114	Total/NA	Water	8260D/UST	
410-151795-16	D-02A-W-231114	Total/NA	Water	8260D/UST	
410-151795-17	MW-23-W-231114	Total/NA	Water	8260D/UST	
410-151795-18	D-27-W-231115	Total/NA	Water	8260D/UST	
410-151795-19	MW-39-W-231115	Total/NA	Water	8260D/UST	
410-151795-20	RMW-01-W-231115	Total/NA	Water	8260D/UST	
410-151795-21	D-12-W-231115	Total/NA	Water	8260D/UST	
410-151795-22	D-15-W-231115	Total/NA	Water	8260D/UST	
410-151795-23	MW-36-W-231115	Total/NA	Water	8260D/UST	
410-151795-24	MW-37-W-231115	Total/NA	Water	8260D/UST	
410-151795-25	D-25-W-231115	Total/NA	Water	8260D/UST	
410-151795-27	MW-29-W-231115	Total/NA	Water	8260D/UST	
MB 410-446766/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-446766/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-446766/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-151795-10 MS	D-26-W-231115	Total/NA	Water	8260D/UST	
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 445458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-26	TB-1-T-231115	Total/NA	Water	NWTPH-Gx	
410-151795-28	TB2-T-231115	Total/NA	Water	NWTPH-Gx	
MB 410-445458/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-445458/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-445458/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC VOA

Analysis Batch: 445460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	NWTPH-Gx	
410-151795-2	MW-26-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-3	D-17-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-4	MW-11-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-5	D-19-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-6	MW-31-W-231114	Total/NA	Water	NWTPH-Gx	
MB 410-445460/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-445460/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-445460/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 445905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-7	MW-12-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-8	D-08-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-12	D-18-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-13	MW-30-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-14	D-09-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-15	MW-24-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-16	D-02A-W-231114	Total/NA	Water	NWTPH-Gx	
410-151795-17	MW-23-W-231114	Total/NA	Water	NWTPH-Gx	
MB 410-445905/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-445905/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-445905/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 446883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-9	MW-38-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-10	D-26-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-11	D-24-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-18	D-27-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-19	MW-39-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-20	RMW-01-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-21	D-12-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-22	D-15-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-23	MW-36-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-24	MW-37-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-25	D-25-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-27	MW-29-W-231115	Total/NA	Water	NWTPH-Gx	
MB 410-446883/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-446883/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-446883/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 448447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-448447/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-448447/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-448447/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-151795-10 MS	D-26-W-231115	Total/NA	Water	NWTPH-Gx	
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 446260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	3510C	
MB 410-446260/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-446260/2-B	Lab Control Sample	Total/NA	Water	3510C	

Prep Batch: 446264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	3510C	
MB 410-446264/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-446264/2-A	Lab Control Sample	Total/NA	Water	3510C	
410-151795-1 DU	MW-1D-W-231113	Total/NA	Water	3510C	

Analysis Batch: 446556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	NWTPH-Dx	446264
MB 410-446264/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	446264
LCS 410-446264/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	446264
410-151795-1 DU	MW-1D-W-231113	Total/NA	Water	NWTPH-Dx	446264

Prep Batch: 447356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-2	MW-26-W-231114	Total/NA	Water	3510C	
410-151795-3	D-17-W-231114	Total/NA	Water	3510C	
410-151795-6	MW-31-W-231114	Total/NA	Water	3510C	
410-151795-7	MW-12-W-231114	Total/NA	Water	3510C	
410-151795-8	D-08-W-231114	Total/NA	Water	3510C	
410-151795-12	D-18-W-231114	Total/NA	Water	3510C	
410-151795-14	D-09-W-231114	Total/NA	Water	3510C	
410-151795-16	D-02A-W-231114	Total/NA	Water	3510C	
410-151795-25	D-25-W-231115	Total/NA	Water	3510C	
410-151795-27	MW-29-W-231115	Total/NA	Water	3510C	
MB 410-447356/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-447356/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-447356/3-C	Lab Control Sample Dup	Total/NA	Water	3510C	
410-151795-H-25-C DU	410-151795-H-25-C DU	Total/NA	Water	3510C	
410-151795-H-27-C DU	410-151795-H-27-C DU	Total/NA	Water	3510C	

Prep Batch: 447360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-2	MW-26-W-231114	Total/NA	Water	3510C	
410-151795-3	D-17-W-231114	Total/NA	Water	3510C	
410-151795-4	MW-11-W-231114	Total/NA	Water	3510C	
410-151795-5	D-19-W-231114	Total/NA	Water	3510C	
410-151795-6	MW-31-W-231114	Total/NA	Water	3510C	
410-151795-7	MW-12-W-231114	Total/NA	Water	3510C	
410-151795-8	D-08-W-231114	Total/NA	Water	3510C	
410-151795-12	D-18-W-231114	Total/NA	Water	3510C	
410-151795-13	MW-30-W-231114	Total/NA	Water	3510C	
410-151795-14	D-09-W-231114	Total/NA	Water	3510C	
410-151795-15	MW-24-W-231114	Total/NA	Water	3510C	
410-151795-16	D-02A-W-231114	Total/NA	Water	3510C	
410-151795-17	MW-23-W-231114	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 447360 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-25	D-25-W-231115	Total/NA	Water	3510C	
410-151795-27	MW-29-W-231115	Total/NA	Water	3510C	
MB 410-447360/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-447360/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-447360/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-151795-25 DU	D-25-W-231115	Total/NA	Water	3510C	
410-151795-27 DU	MW-29-W-231115	Total/NA	Water	3510C	

Analysis Batch: 447751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-2	MW-26-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-3	D-17-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-4	MW-11-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-5	D-19-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-6	MW-31-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-7	MW-12-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-8	D-08-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-12	D-18-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-13	MW-30-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-14	D-09-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-15	MW-24-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-16	D-02A-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-17	MW-23-W-231114	Total/NA	Water	NWTPH-Dx	447360
410-151795-25	D-25-W-231115	Total/NA	Water	NWTPH-Dx	447360
410-151795-27	MW-29-W-231115	Total/NA	Water	NWTPH-Dx	447360
MB 410-447360/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	447360
LCS 410-447360/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	447360
LCSD 410-447360/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	447360
410-151795-25 DU	D-25-W-231115	Total/NA	Water	NWTPH-Dx	447360
410-151795-27 DU	MW-29-W-231115	Total/NA	Water	NWTPH-Dx	447360

Cleanup Batch: 447811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	3630C	446260
MB 410-446260/1-B	Method Blank	Total/NA	Water	3630C	446260
LCS 410-446260/2-B	Lab Control Sample	Total/NA	Water	3630C	446260

Prep Batch: 448163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-9	MW-38-W-231115	Total/NA	Water	3510C	
410-151795-10	D-26-W-231115	Total/NA	Water	3510C	
410-151795-11	D-24-W-231115	Total/NA	Water	3510C	
410-151795-18	D-27-W-231115	Total/NA	Water	3510C	
410-151795-19	MW-39-W-231115	Total/NA	Water	3510C	
410-151795-20	RMW-01-W-231115	Total/NA	Water	3510C	
410-151795-21	D-12-W-231115	Total/NA	Water	3510C	
410-151795-22	D-15-W-231115	Total/NA	Water	3510C	
410-151795-23	MW-36-W-231115	Total/NA	Water	3510C	
410-151795-24	MW-37-W-231115	Total/NA	Water	3510C	
MB 410-448163/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-448163/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 448163 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-10 MS	D-26-W-231115	Total/NA	Water	3510C	
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	3510C	

Prep Batch: 448167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-10	D-26-W-231115	Total/NA	Water	3510C	
410-151795-11	D-24-W-231115	Total/NA	Water	3510C	
410-151795-18	D-27-W-231115	Total/NA	Water	3510C	
410-151795-19	MW-39-W-231115	Total/NA	Water	3510C	
410-151795-20	RMW-01-W-231115	Total/NA	Water	3510C	
410-151795-21	D-12-W-231115	Total/NA	Water	3510C	
410-151795-22	D-15-W-231115	Total/NA	Water	3510C	
410-151795-24	MW-37-W-231115	Total/NA	Water	3510C	
MB 410-448167/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-448167/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-151795-10 MS	D-26-W-231115	Total/NA	Water	3510C	
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	3510C	

Analysis Batch: 448229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-1	MW-1D-W-231113	Total/NA	Water	NWTPH-Dx	447811
MB 410-446260/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	447811
LCS 410-446260/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	447811

Analysis Batch: 448780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-9	MW-38-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-10	D-26-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-11	D-24-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-18	D-27-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-19	MW-39-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-20	RMW-01-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-21	D-12-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-22	D-15-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-23	MW-36-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-24	MW-37-W-231115	Total/NA	Water	NWTPH-Dx	448163
MB 410-448163/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	448163
LCS 410-448163/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	448163
410-151795-10 MS	D-26-W-231115	Total/NA	Water	NWTPH-Dx	448163
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	NWTPH-Dx	448163

Cleanup Batch: 449353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-2	MW-26-W-231114	Total/NA	Water	3630C	447356
410-151795-3	D-17-W-231114	Total/NA	Water	3630C	447356
410-151795-6	MW-31-W-231114	Total/NA	Water	3630C	447356
410-151795-7	MW-12-W-231114	Total/NA	Water	3630C	447356
410-151795-8	D-08-W-231114	Total/NA	Water	3630C	447356
410-151795-12	D-18-W-231114	Total/NA	Water	3630C	447356
410-151795-14	D-09-W-231114	Total/NA	Water	3630C	447356
410-151795-16	D-02A-W-231114	Total/NA	Water	3630C	447356

GC Semi VOA (Continued)

Cleanup Batch: 449353 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-25	D-25-W-231115	Total/NA	Water	3630C	447356
410-151795-27	MW-29-W-231115	Total/NA	Water	3630C	447356
MB 410-447356/1-B	Method Blank	Total/NA	Water	3630C	447356
LCS 410-447356/2-B	Lab Control Sample	Total/NA	Water	3630C	447356
LCSD 410-447356/3-C	Lab Control Sample Dup	Total/NA	Water	3630C	447356
410-151795-H-25-C DU	410-151795-H-25-C DU	Total/NA	Water	3630C	447356
410-151795-H-27-C DU	410-151795-H-27-C DU	Total/NA	Water	3630C	447356

Cleanup Batch: 449581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-10	D-26-W-231115	Total/NA	Water	3630C	448167
410-151795-11	D-24-W-231115	Total/NA	Water	3630C	448167
410-151795-18	D-27-W-231115	Total/NA	Water	3630C	448167
410-151795-19	MW-39-W-231115	Total/NA	Water	3630C	448167
410-151795-20	RMW-01-W-231115	Total/NA	Water	3630C	448167
410-151795-21	D-12-W-231115	Total/NA	Water	3630C	448167
410-151795-22	D-15-W-231115	Total/NA	Water	3630C	448167
410-151795-24	MW-37-W-231115	Total/NA	Water	3630C	448167
MB 410-448167/1-B	Method Blank	Total/NA	Water	3630C	448167
LCS 410-448167/2-B	Lab Control Sample	Total/NA	Water	3630C	448167
410-151795-10 MS	D-26-W-231115	Total/NA	Water	3630C	448167
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	3630C	448167

Analysis Batch: 449747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-10	D-26-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-11	D-24-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-18	D-27-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-19	MW-39-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-20	RMW-01-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-21	D-12-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-22	D-15-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-24	MW-37-W-231115	Total/NA	Water	NWTPH-Dx	449581
MB 410-448167/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	449581
LCS 410-448167/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	449581
410-151795-10 MS	D-26-W-231115	Total/NA	Water	NWTPH-Dx	449581
410-151795-10 MSD	D-26-W-231115	Total/NA	Water	NWTPH-Dx	449581

Analysis Batch: 449762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-3	D-17-W-231114	Total/NA	Water	NWTPH-Dx	449353
410-151795-12	D-18-W-231114	Total/NA	Water	NWTPH-Dx	449353
410-151795-14	D-09-W-231114	Total/NA	Water	NWTPH-Dx	449353
MB 410-447356/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	449353
LCS 410-447356/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	449353
LCSD 410-447356/3-C	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	449353

Analysis Batch: 450931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-2	MW-26-W-231114	Total/NA	Water	NWTPH-Dx	449353
410-151795-6	MW-31-W-231114	Total/NA	Water	NWTPH-Dx	449353

GC Semi VOA (Continued)

Analysis Batch: 450931 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-7	MW-12-W-231114	Total/NA	Water	NWTPH-Dx	449353
410-151795-8	D-08-W-231114	Total/NA	Water	NWTPH-Dx	449353
MB 410-447356/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	449353
LCS 410-447356/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	449353
LCSD 410-447356/3-C	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	449353

Analysis Batch: 450932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-16	D-02A-W-231114	Total/NA	Water	NWTPH-Dx	449353
410-151795-25	D-25-W-231115	Total/NA	Water	NWTPH-Dx	449353
410-151795-27	MW-29-W-231115	Total/NA	Water	NWTPH-Dx	449353
410-151795-H-25-C DU	410-151795-H-25-C DU	Total/NA	Water	NWTPH-Dx	449353
410-151795-H-27-C DU	410-151795-H-27-C DU	Total/NA	Water	NWTPH-Dx	449353

Prep Batch: 451387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-4	MW-11-W-231114	Total/NA	Water	3510C	
410-151795-5	D-19-W-231114	Total/NA	Water	3510C	
410-151795-13	MW-30-W-231114	Total/NA	Water	3510C	
410-151795-15	MW-24-W-231114	Total/NA	Water	3510C	
MB 410-451387/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Cleanup Batch: 451524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-4	MW-11-W-231114	Total/NA	Water	3630C	451387
410-151795-5	D-19-W-231114	Total/NA	Water	3630C	451387
410-151795-13	MW-30-W-231114	Total/NA	Water	3630C	451387
410-151795-15	MW-24-W-231114	Total/NA	Water	3630C	451387
MB 410-451387/1-B	Method Blank	Total/NA	Water	3630C	451387
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	3630C	451387
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	451387

Analysis Batch: 451978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151795-4	MW-11-W-231114	Total/NA	Water	NWTPH-Dx	451524
410-151795-5	D-19-W-231114	Total/NA	Water	NWTPH-Dx	451524
410-151795-13	MW-30-W-231114	Total/NA	Water	NWTPH-Dx	451524
410-151795-15	MW-24-W-231114	Total/NA	Water	NWTPH-Dx	451524
MB 410-451387/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	451524
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	451524
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	451524

Lab Chronicle

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-1D-W-231113
Lab Sample ID: 410-151795-1
Date Collected: 11/13/23 13:25
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 19:35
Total/NA	Analysis	NWTPH-Gx		1	445460	SE8S	ELLE	11/20/23 17:11
Total/NA	Prep	3510C			446260	QKX3	ELLE	11/22/23 07:47
Total/NA	Cleanup	3630C			447811	USL7	ELLE	11/29/23 00:30
Total/NA	Analysis	NWTPH-Dx		1	448229	UHEW	ELLE	11/30/23 06:45
Total/NA	Prep	3510C			446264	QKX3	ELLE	11/22/23 07:54
Total/NA	Analysis	NWTPH-Dx		1	446556	IUSB	ELLE	11/22/23 23:47

Client Sample ID: MW-26-W-231114
Lab Sample ID: 410-151795-2
Date Collected: 11/14/23 09:35
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 19:59
Total/NA	Analysis	NWTPH-Gx		1	445460	SE8S	ELLE	11/20/23 17:36
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/06/23 21:27
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 00:52

Client Sample ID: D-17-W-231114
Lab Sample ID: 410-151795-3
Date Collected: 11/14/23 10:45
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 20:23
Total/NA	Analysis	NWTPH-Gx		1	445460	SE8S	ELLE	11/20/23 18:01
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 01:15
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	449762	KP5X	ELLE	12/04/23 16:52

Client Sample ID: MW-11-W-231114
Lab Sample ID: 410-151795-4
Date Collected: 11/14/23 11:30
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 20:47
Total/NA	Analysis	NWTPH-Gx		1	445460	SE8S	ELLE	11/20/23 18:27
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 01:38

Client Sample ID: MW-11-W-231114
Lab Sample ID: 410-151795-4

Date Collected: 11/14/23 11:30
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451387	QJZ6	ELLE	12/07/23 15:43
Total/NA	Cleanup	3630C			451524	USL7	ELLE	12/08/23 00:38
Total/NA	Analysis	NWTPH-Dx		1	451978	IUSB	ELLE	12/09/23 01:30

Client Sample ID: D-19-W-231114
Lab Sample ID: 410-151795-5

Date Collected: 11/14/23 13:00
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 21:11
Total/NA	Analysis	NWTPH-Gx		1	445460	SE8S	ELLE	11/20/23 18:52
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 02:01
Total/NA	Prep	3510C			451387	QJZ6	ELLE	12/07/23 15:43
Total/NA	Cleanup	3630C			451524	USL7	ELLE	12/08/23 00:38
Total/NA	Analysis	NWTPH-Dx		1	451978	IUSB	ELLE	12/09/23 01:53

Client Sample ID: MW-31-W-231114
Lab Sample ID: 410-151795-6

Date Collected: 11/14/23 13:50
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 21:35
Total/NA	Analysis	NWTPH-Gx		5	445460	SE8S	ELLE	11/20/23 23:58
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/06/23 22:59
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 02:23

Client Sample ID: MW-12-W-231114
Lab Sample ID: 410-151795-7

Date Collected: 11/14/23 15:40
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 21:58
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 19:34
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/06/23 23:22
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 02:46

Lab Chronicle

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-08-W-231114
Lab Sample ID: 410-151795-8
Date Collected: 11/14/23 16:35
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 22:23
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 20:52
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/06/23 23:45
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 03:09

Client Sample ID: MW-38-W-231115
Lab Sample ID: 410-151795-9
Date Collected: 11/15/23 09:25
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 15:06
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 14:50
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 11:36

Client Sample ID: D-26-W-231115
Lab Sample ID: 410-151795-10
Date Collected: 11/15/23 10:25
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 15:30
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 15:15
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 16:06
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 11:59

Client Sample ID: D-24-W-231115
Lab Sample ID: 410-151795-11
Date Collected: 11/15/23 12:00
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 16:42
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 16:32
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 17:15
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 12:22

Client Sample ID: D-18-W-231114
Lab Sample ID: 410-151795-12

Date Collected: 11/14/23 10:01
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 17:06
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 21:18
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 03:32
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	449762	KP5X	ELLE	12/04/23 19:33

Client Sample ID: MW-30-W-231114
Lab Sample ID: 410-151795-13

Date Collected: 11/14/23 11:01
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 17:30
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 21:43
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 03:54
Total/NA	Prep	3510C			451387	QJZ6	ELLE	12/07/23 15:43
Total/NA	Cleanup	3630C			451524	USL7	ELLE	12/08/23 00:38
Total/NA	Analysis	NWTPH-Dx		1	451978	IUSB	ELLE	12/09/23 02:39

Client Sample ID: D-09-W-231114
Lab Sample ID: 410-151795-14

Date Collected: 11/14/23 12:25
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 17:54
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 22:09
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 04:17
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	449762	KP5X	ELLE	12/04/23 20:19

Client Sample ID: MW-24-W-231114
Lab Sample ID: 410-151795-15

Date Collected: 11/14/23 14:03
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 18:18
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 22:34
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 05:02

Lab Chronicle

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-24-W-231114
Lab Sample ID: 410-151795-15
Date Collected: 11/14/23 14:03
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			451387	QJZ6	ELLE	12/07/23 15:43
Total/NA	Cleanup	3630C			451524	USL7	ELLE	12/08/23 00:38
Total/NA	Analysis	NWTPH-Dx		1	451978	IUSB	ELLE	12/09/23 03:25

Client Sample ID: D-02A-W-231114
Lab Sample ID: 410-151795-16
Date Collected: 11/14/23 15:21
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 18:42
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 23:00
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 05:25
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/06/23 21:50

Client Sample ID: MW-23-W-231114
Lab Sample ID: 410-151795-17
Date Collected: 11/14/23 16:33
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 19:06
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 23:26
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 05:48

Client Sample ID: D-27-W-231115
Lab Sample ID: 410-151795-18
Date Collected: 11/15/23 09:17
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 19:30
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 16:57
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 17:38
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 12:44

Client Sample ID: MW-39-W-231115
Lab Sample ID: 410-151795-19

Date Collected: 11/15/23 10:12
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 19:54
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 17:22
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 18:01
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 13:07

Client Sample ID: RMW-01-W-231115
Lab Sample ID: 410-151795-20

Date Collected: 11/15/23 11:41
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 20:18
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 18:39
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 18:24
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 13:30

Client Sample ID: D-12-W-231115
Lab Sample ID: 410-151795-21

Date Collected: 11/15/23 12:43
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 20:42
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 19:04
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 18:47
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 13:52

Client Sample ID: D-15-W-231115
Lab Sample ID: 410-151795-22

Date Collected: 11/15/23 13:58
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 21:06
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 19:29
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 19:10

Client Sample ID: D-15-W-231115
Lab Sample ID: 410-151795-22

Date Collected: 11/15/23 13:58
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 14:15

Client Sample ID: MW-36-W-231115
Lab Sample ID: 410-151795-23

Date Collected: 11/15/23 12:55
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 21:30
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 19:55
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 14:38

Client Sample ID: MW-37-W-231115
Lab Sample ID: 410-151795-24

Date Collected: 11/15/23 13:55
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 21:54
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 20:20
Total/NA	Prep	3510C			448167	T9CY	ELLE	11/29/23 15:27
Total/NA	Cleanup	3630C			449581	USL7	ELLE	12/04/23 01:15
Total/NA	Analysis	NWTPH-Dx		1	449747	KP5X	ELLE	12/04/23 19:56
Total/NA	Prep	3510C			448163	T9CY	ELLE	11/29/23 15:22
Total/NA	Analysis	NWTPH-Dx		1	448780	UHEW	ELLE	12/01/23 15:01

Client Sample ID: D-25-W-231115
Lab Sample ID: 410-151795-25

Date Collected: 11/15/23 14:50
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 22:18
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 20:46
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 06:11
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/06/23 22:36

Client Sample ID: TB-1-T-231115
Lab Sample ID: 410-151795-26

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 15:59

Lab Chronicle

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-1-T-231115
Lab Sample ID: 410-151795-26
Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	NWTPH-Gx		1	445458	SE8S	ELLE	11/20/23 16:44

Client Sample ID: MW-29-W-231115
Lab Sample ID: 410-151795-27
Date Collected: 11/15/23 14:58
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446766	UKAD	ELLE	11/26/23 22:42
Total/NA	Analysis	NWTPH-Gx		1	446883	SE8S	ELLE	11/27/23 21:11
Total/NA	Prep	3510C			447360	QKX3	ELLE	11/28/23 08:09
Total/NA	Analysis	NWTPH-Dx		1	447751	IUSB	ELLE	11/29/23 06:56
Total/NA	Prep	3510C			447356	QKX3	ELLE	11/28/23 08:04
Total/NA	Cleanup	3630C			449353	USL7	ELLE	12/02/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/06/23 23:22

Client Sample ID: TB2-T-231115
Lab Sample ID: 410-151795-28
Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/17/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 16:23
Total/NA	Analysis	NWTPH-Gx		1	445458	SE8S	ELLE	11/20/23 17:09

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-151795-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-151795-1	MW-1D-W-231113	Water	11/13/23 13:25	11/17/23 09:57
410-151795-2	MW-26-W-231114	Water	11/14/23 09:35	11/17/23 09:57
410-151795-3	D-17-W-231114	Water	11/14/23 10:45	11/17/23 09:57
410-151795-4	MW-11-W-231114	Water	11/14/23 11:30	11/17/23 09:57
410-151795-5	D-19-W-231114	Water	11/14/23 13:00	11/17/23 09:57
410-151795-6	MW-31-W-231114	Water	11/14/23 13:50	11/17/23 09:57
410-151795-7	MW-12-W-231114	Water	11/14/23 15:40	11/17/23 09:57
410-151795-8	D-08-W-231114	Water	11/14/23 16:35	11/17/23 09:57
410-151795-9	MW-38-W-231115	Water	11/15/23 09:25	11/17/23 09:57
410-151795-10	D-26-W-231115	Water	11/15/23 10:25	11/17/23 09:57
410-151795-11	D-24-W-231115	Water	11/15/23 12:00	11/17/23 09:57
410-151795-12	D-18-W-231114	Water	11/14/23 10:01	11/17/23 09:57
410-151795-13	MW-30-W-231114	Water	11/14/23 11:01	11/17/23 09:57
410-151795-14	D-09-W-231114	Water	11/14/23 12:25	11/17/23 09:57
410-151795-15	MW-24-W-231114	Water	11/14/23 14:03	11/17/23 09:57
410-151795-16	D-02A-W-231114	Water	11/14/23 15:21	11/17/23 09:57
410-151795-17	MW-23-W-231114	Water	11/14/23 16:33	11/17/23 09:57
410-151795-18	D-27-W-231115	Water	11/15/23 09:17	11/17/23 09:57
410-151795-19	MW-39-W-231115	Water	11/15/23 10:12	11/17/23 09:57
410-151795-20	RMW-01-W-231115	Water	11/15/23 11:41	11/17/23 09:57
410-151795-21	D-12-W-231115	Water	11/15/23 12:43	11/17/23 09:57
410-151795-22	D-15-W-231115	Water	11/15/23 13:58	11/17/23 09:57
410-151795-23	MW-36-W-231115	Water	11/15/23 12:55	11/17/23 09:57
410-151795-24	MW-37-W-231115	Water	11/15/23 13:55	11/17/23 09:57
410-151795-25	D-25-W-231115	Water	11/15/23 14:50	11/17/23 09:57
410-151795-26	TB-1-T-231115	Water	10/26/23 00:00	11/17/23 09:57
410-151795-27	MW-29-W-231115	Water	11/15/23 14:58	11/17/23 09:57
410-151795-28	TB2-T-231115	Water	10/26/23 00:00	11/17/23 09:57

Eur
2425
Lanc
Phor

me

410-151795 Chain of Custody

Chain of Custody Record

eurofins
Environment Testing

Clie.	Sampler: SC, LC	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-101297-22634.5
Client Contact: Mr. Bradley Wynne	Phone:	E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: LC Page 1 of 3
Company: AECOM	PWSID:			Job #:
Address: 13355 Noel Road Suite 400	Due Date Requested:			
City: Dallas	TAT Requested (days):			
State, Zip: TX, 75240	Compliance Project: Δ Yes Δ No			
Phone: 972-735-7068(Tel)	PO #: 152363			
Email: bradley.wynne@aecom.com	WO #: 60701804			
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Gx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	NWTPH_Dx - NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	A		
MW-10-W-231113	11/13/23	1325	G	W			/	/	/	/	8	
MW-26-W-231114	11/14/23	0935	G	W			/	/	/	/	8	
D-17-W-231114		1045					/	/	/	/	8	
MW-11-W-231114		1130					/	/	/	/	8	
D-19-W-231114		1300					/	/	/	/	8	
MW-31-W-231114		1350					/	/	/	/	6	unable to fill all BTEX
D MW-12-W-231114		1540					/	/	/	/	8	
D-08-W-231114		1635					/	/	/	/	8	
MW-38-W-231115	11/15/23	0925	G	W			/	/	/	/	8	
D-26-W-231115		1025				Y	/	/	/	/	24	MS/MSD
D-24-W-231115		1200					/	/	/	/	8	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:	Date/Time: 11/15/23 1640	Company: AECOM	Received by:	Date/Time: 11/17/23	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/23	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time: 11/17/23 9:57	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Raw 0.4 - 4.8 Corr 0.4 - 4.8

Ver: 06/08/2021

12/13/2023

Eurofins Lancaster Laboratories Environme
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-656-2300 Fax: 717-656-2681

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: SC, LC	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-101297-22634 6
Client Contact: Mr. Bradley Wynne	Phone:	E-Mail: Loran Carter@et.eurofinsus.com	State of Origin:	Page: LC Page ~~1 of 3~~ 2 of 3
Company: AECOM	PWSID:			Job #:
Address: 13355 Noel Road Suite 400	Due Date Requested:			
City: Dallas	TAT Requested (days):			
State, Zip: TX, 75240	Compliance Project: Δ Yes Δ No			
Phone: 972-735-7068(Tel)	PO #: 152363			
Email: bradley.wynne@aecom.com	WO #: 60701804			
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Gx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	NWTPH_Dx - NWTPH-Dx	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	A	A		
D-14-W-231114	11/14/23	1001	G	W			/	/	/	/		
MW-30-W-231114		1101	G	W			/	/	/	/		
D-09-W-231114		1225	G	W			/	/	/	/		
MW-24-W-231114		1403	G	W			/	/	/	/		
D-07A-W-231114		1521	G	W			/	/	/	/		
MW-23-W-231114		1633	G	W			/	/	/	/		
D-27-W-231115	11/15/23	917	G	W			/	/	/	/		
MW-39-W-231115		1012	G	W			/	/	/	/		
BMW-01-W-231115		1141	G	W			/	/	/	/		
D-12-W-231115		1243	G	W			/	/	/	/		
D-15-W-231115		1358	G	W			/	/	/	/		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
		11/15/23 1640	AECOM			
	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/23 9:57	Company: ECET

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Raw 0.4 - 4.8
corr 0.4 - 4.8

Ver: 06/08/2021

12/13/2023

Eurofins Lancaster Laboratories Environme
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-656-2300 Fax: 717-656-2681

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: SC, LC	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-101297-22634.1
Client Contact: Mr. Bradley Wynne	Phone:	E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: LC Page ~~1 of 6~~ 3 of 3
Company: AECOM	PWSID:	Analysis Requested		Job #:

Address: 13355 Noel Road Suite 400	Due Date Requested:	Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:
City: Dallas	TAT Requested (days):	
State, Zip: TX, 75240	Compliance Project: Δ Yes Δ No	
Phone: 972-735-7068(Tel)	PO #: 152363	
Email: bradley.wynne@aecom.com	WO #: 60701804	
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252	
Site:	SSOW#:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Gx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	NWTPH_Dx - NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	A		
MW-36-W-231115	11/15/23	1255	G	W			/	/	/	/	8	
MW-37-W-231115	↓	1355	↓	↓			/	/	/	/	8	
D-25-W-231115	↓	1450	↓	↓			/	/	/	/	8	
TB-1-T-231115	10/26/23	—	—	W				/	/		4	TB
MW-29-W-231115	11/15/23	1458	G	W			/	/	/	/	8	
TB-2-T-231115	10/26/23	—	—	W				/	/		4	TB

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/15/23 1640	Company: AECOM	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/23 9:57	Company: ESAT	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Rad 0.4 - 4.8 ~ 3.1 0.4 - 4.8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-151795-1

Login Number: 151795

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Kanagy, Nicholas

Question	Answer	Comment
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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, 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	
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Bradley Wynne
AECOM
13355 Noel Road
Suite 400
Dallas, Texas 75240

Generated 12/12/2023 12:53:35 AM

JOB DESCRIPTION

CEMREC Legacy Sites – Tacoma

JOB NUMBER

410-151876-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
12/12/2023 12:53:35 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.



Table of Contents

Cover Page 1
Table of Contents 4
Definitions/Glossary 5
Case Narrative 6
Detection Summary 7
Client Sample Results 10
Surrogate Summary 24
QC Sample Results 28
QC Association Summary 40
Lab Chronicle 47
Certification Summary 54
Method Summary 55
Sample Summary 56
Chain of Custody 57
Receipt Checklists 60

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
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
cn	Refer to Case Narrative for further detail
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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

Job ID: 410-151876-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-151876-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

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 may be 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.

Receipt
The samples were received on 11/18/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.3°C, 0.5°C and 1.9°C

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
Method NWTPH_Gx: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: DUP-1-WD-231116 (410-151876-17), DUP-2-WD-231117 (410-151876-18), MW-13-W-231117 (410-151876-19) and D-01-W-231117 (410-151876-20). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method NWTPH_Dx: The CCV bracketing samples D-22-W-231116 (410-151876-1), MW-34-W-231116 (410-151876-2), MW-34-W-231116 (410-151876-2[MS]), MW-34-W-231116 (410-151876-2[MSD]), MW-21-W-231116 (410-151876-3), MW-32-W-231116 (410-151876-4), D-03A-W-231116 (410-151876-5), MW-14-W-231116 (410-151876-6), MW-25-W-231116 (410-151876-11), D-10-W-231116 (410-151876-12), D-7-W-231116 (410-151876-13), MW-22-W-231116 (410-151876-14), MW-18-W-231116 (410-151876-16), DUP-1-WD-231116 (410-151876-17), (LCS 410-448723/2-B), (MB 410-448723/1-B) and (410-151876-B-1-E DU) had a detection for o-terphenyl below the control limits. Only one vial of extract was provided, so reanalysis is not possible. Re-extraction would occur outside of the method hold time.

Method NWTPH_Dx: Samples D-06-W-231116 (410-151876-15) had a detection for the C24-C40 range due to silica gel contamination. Sample was re-extracted outside of the method hold time. Re-extract was non-detect for the C24-C40 range.

Method NWTPH_Dx: Surrogate recovery for the following samples were outside control limits (low): RB-1-R-231117 (410-151876-10), DUP-2-WD-231117 (410-151876-18) and D-01-W-231117 (410-151876-20). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits (low): MW-13-W-231117 (410-151876-19). Re-extraction and/or re-analysis was performed and surrogate recovery was outside control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-22-W-231116 — Lab Sample ID: 410-151876-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	72	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	500		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-34-W-231116 — Lab Sample ID: 410-151876-2

No Detections.

Client Sample ID: MW-21-W-231116 — Lab Sample ID: 410-151876-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	250		100	45	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	340		250	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-32-W-231116 — Lab Sample ID: 410-151876-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.1		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Toluene	0.48	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	1300		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	73	J cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	220	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-03A-W-231116 — Lab Sample ID: 410-151876-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	49	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1100		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	290		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-14-W-231116 — Lab Sample ID: 410-151876-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	170		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-19-W-231117 — Lab Sample ID: 410-151876-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.68	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Ethylbenzene	0.40	J	1.0	0.40	ug/L	1		8260D/UST	Total/NA
Toluene	0.43	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
Xylenes, Total	1.4	J	6.0	0.40	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	970		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	8600		200	92	ug/L	2		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	81	J	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1500		510	200	ug/L	2		NWTPH-Dx	Total/NA

Client Sample ID: D-14-W-231117 — Lab Sample ID: 410-151876-8

No Detections.

Client Sample ID: FB-1-O-231117 — Lab Sample ID: 410-151876-9

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: CEMREC Legacy Sites – Tacoma

Job ID: 410-151876-1

Client Sample ID: RB-1-R-231117 — Lab Sample ID: 410-151876-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	59	J	100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-25-W-231116 — Lab Sample ID: 410-151876-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0	0.30	ug/L	1		8260D/UST	Total/NA
Ethylbenzene	1.5		1.0	0.40	ug/L	1		8260D/UST	Total/NA
Toluene	0.46	J	1.0	0.30	ug/L	1		8260D/UST	Total/NA
C7-C12 (1C)	900		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	150		100	46	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-10-W-231116 — Lab Sample ID: 410-151876-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	93	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	190	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-7-W-231116 — Lab Sample ID: 410-151876-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	420		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	110	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-22-W-231116 — Lab Sample ID: 410-151876-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	76	J	250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	4100		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1200		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-06-W-231116 — Lab Sample ID: 410-151876-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	250		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	2600		100	47	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	54	J cn	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	280		260	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	130	J cn	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-18-W-231116 — Lab Sample ID: 410-151876-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	550		250	43	ug/L	1		NWTPH-Gx	Total/NA
C12-C24	1300		100	46	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	59	J cn	100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	240	J	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-1-WD-231116 — Lab Sample ID: 410-151876-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	660	J cn	2500	430	ug/L	10		NWTPH-Gx	Total/NA
C12-C24	3900		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	1300		260	100	ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: DUP-2-WD-231117 — Lab Sample ID: 410-151876-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	4500		100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	850		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: MW-13-W-231117 — Lab Sample ID: 410-151876-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	220	J cn	1300	220	ug/L	5		NWTPH-Gx	Total/NA
C12-C24	3900		100	46	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	440		260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: D-01-W-231117 — Lab Sample ID: 410-151876-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C12-C24	4300		100	47	ug/L	1		NWTPH-Dx	Total/NA
C12-C24 with Silica Gel clean up	52	J cn	100	47	ug/L	1		NWTPH-Dx	Total/NA
C24-C40	780		260	100	ug/L	1		NWTPH-Dx	Total/NA
C24-C40 with Silica Gel clean up	920	cn	260	100	ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-4-T-231117 — Lab Sample ID: 410-151876-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C7-C12 (1C)	49	J	250	43	ug/L	1		NWTPH-Gx	Total/NA

Client Sample ID: TB-3-T-231117 — Lab Sample ID: 410-151876-22

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: D-22-W-231116
Lab Sample ID: 410-151876-1

Date Collected: 11/16/23 09:35
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 18:15	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 18:15	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 18:15	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 18:15	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*11/29/23 18:15*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 18:15*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 18:15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 18:15*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**72**	**J**	250	43	ug/L			11/28/23 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*103*		*50 - 150*		*11/28/23 15:00*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**500**		100	46	ug/L		11/30/23 15:28	12/01/23 21:16	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 01:40	1
C24-C40	ND		260	100	ug/L		11/30/23 15:28	12/01/23 21:16	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*83*		*50 - 150*	*11/30/23 15:28*	*12/01/23 21:16*	*1*
o- terphenyl (Surr)	*73*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 01:40*	*1*

Client Sample ID: MW-34-W-231116
Lab Sample ID: 410-151876-2

Date Collected: 11/16/23 10:36
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 18:39	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 18:39	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 18:39	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 18:39	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 18:39*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/29/23 18:39*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 18:39*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 18:39*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/28/23 15:26	1

Client Sample ID: MW-34-W-231116
Lab Sample ID: 410-151876-2
Date Collected: 11/16/23 10:36
Matrix: Water
Date Received: 11/18/23 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/28/23 15:26*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		11/30/23 15:28	12/01/23 22:02	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 02:26	1
C24-C40	ND		250	100	ug/L		11/30/23 15:28	12/01/23 22:02	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/30/23 15:33	12/07/23 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*63*		*50 - 150*	*11/30/23 15:28*	*12/01/23 22:02*	*1*
o- terphenyl (Surr)	*56*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 02:26*	*1*

Client Sample ID: MW-21-W-231116
Lab Sample ID: 410-151876-3
Date Collected: 11/16/23 12:05
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 19:50	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 19:50	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 19:50	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 19:50	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 19:50*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/29/23 19:50*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/29/23 19:50*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/29/23 19:50*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/28/23 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/28/23 16:42*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**250**		100	45	ug/L		11/30/23 15:28	12/01/23 23:11	1
C12-C24 with Silica Gel clean up	ND	cn	100	45	ug/L		11/30/23 15:33	12/07/23 03:35	1
C24-C40	**340**		250	100	ug/L		11/30/23 15:28	12/01/23 23:11	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/30/23 15:33	12/07/23 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*79*		*50 - 150*	*11/30/23 15:28*	*12/01/23 23:11*	*1*
o- terphenyl (Surr)	*61*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 03:35*	*1*

Client Sample ID: MW-32-W-231116
Lab Sample ID: 410-151876-4
Date Collected: 11/16/23 14:09
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.1**		1.0	0.30	ug/L			11/29/23 20:14	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 20:14	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 20:14	1
Toluene	**0.48**	**J**	1.0	0.30	ug/L			11/29/23 20:14	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 20:14*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 20:14*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 20:14*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 20:14*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**1300**		250	43	ug/L			11/28/23 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/28/23 17:08*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**4900**		100	46	ug/L		11/30/23 15:28	12/01/23 23:34	1
C12-C24 with Silica Gel clean up	**73**	**J cn**	100	46	ug/L		11/30/23 15:33	12/07/23 03:58	1
C24-C40	**220**	**J**	260	100	ug/L		11/30/23 15:28	12/01/23 23:34	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*76*		*50 - 150*	*11/30/23 15:28*	*12/01/23 23:34*	*1*
o- terphenyl (Surr)	*68*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 03:58*	*1*

Client Sample ID: D-03A-W-231116
Lab Sample ID: 410-151876-5
Date Collected: 11/16/23 13:07
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 20:38	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 20:38	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 20:38	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 20:38	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 20:38*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 20:38*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 20:38*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 20:38*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**49**	**J**	250	43	ug/L			11/28/23 17:33	1

Client Sample ID: D-03A-W-231116

Lab Sample ID: 410-151876-5

Date Collected: 11/16/23 13:07

Matrix: Water

Date Received: 11/18/23 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/28/23 17:33*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1100**		100	46	ug/L		11/30/23 15:28	12/01/23 23:57	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 04:44	1
C24-C40	**290**		260	100	ug/L		11/30/23 15:28	12/01/23 23:57	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*53*		*50 - 150*	*11/30/23 15:28*	*12/01/23 23:57*	*1*
o- terphenyl (Surr)	*57*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 04:44*	*1*

Client Sample ID: MW-14-W-231116

Lab Sample ID: 410-151876-6

Date Collected: 11/16/23 15:15

Matrix: Water

Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 21:01	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 21:01	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 21:01	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 21:01	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*11/29/23 21:01*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/29/23 21:01*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 21:01*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/29/23 21:01*	*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	43	ug/L			11/28/23 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/28/23 17:59*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**170**		100	46	ug/L		11/30/23 15:28	12/02/23 00:20	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 05:07	1
C24-C40	ND		250	100	ug/L		11/30/23 15:28	12/02/23 00:20	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/30/23 15:33	12/07/23 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*11/30/23 15:28*	*12/02/23 00:20*	*1*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 05:07*	*1*

Client Sample ID: MW-19-W-231117
Lab Sample ID: 410-151876-7

Date Collected: 11/17/23 09:10
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.68**	**J**	1.0	0.30	ug/L			11/29/23 21:25	1
Ethylbenzene	**0.40**	**J**	1.0	0.40	ug/L			11/29/23 21:25	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 21:25	1
Toluene	**0.43**	**J**	1.0	0.30	ug/L			11/29/23 21:25	1
Xylenes, Total	**1.4**	**J**	6.0	0.40	ug/L			11/29/23 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 21:25*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/29/23 21:25*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 21:25*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 21:25*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**970**		250	43	ug/L			11/28/23 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/28/23 18:24*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**8600**		200	92	ug/L		12/01/23 08:10	12/05/23 00:55	2
C12-C24 with Silica Gel clean up	**81**	**J**	100	46	ug/L		12/01/23 08:06	12/07/23 05:07	1
C24-C40	**1500**		510	200	ug/L		12/01/23 08:10	12/05/23 00:55	2
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		12/01/23 08:06	12/07/23 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*66*		*50 - 150*	*12/01/23 08:10*	*12/05/23 00:55*	*2*
o- terphenyl (Surr)	*62*		*50 - 150*	*12/01/23 08:06*	*12/07/23 05:07*	*1*

Client Sample ID: D-14-W-231117
Lab Sample ID: 410-151876-8

Date Collected: 11/17/23 10:15
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 13:17	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 13:17	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 13:17	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 13:17	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/30/23 13:17*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/30/23 13:17*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/30/23 13:17*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/30/23 13:17*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/28/23 18:50	1

Client Sample ID: D-14-W-231117
Lab Sample ID: 410-151876-8

Date Collected: 11/17/23 10:15
Matrix: Water
Date Received: 11/18/23 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*99*		*50 - 150*		*11/28/23 18:50*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	46	ug/L		12/01/23 08:10	12/02/23 00:20	1
C12-C24 with Silica Gel clean up	ND		100	46	ug/L		12/01/23 08:06	12/07/23 05:54	1
C24-C40	ND		260	100	ug/L		12/01/23 08:10	12/02/23 00:20	1
C24-C40 with Silica Gel clean up	ND		260	100	ug/L		12/01/23 08:06	12/07/23 05:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*12/01/23 08:10*	*12/02/23 00:20*	*1*
o- terphenyl (Surr)	*53*		*50 - 150*	*12/01/23 08:06*	*12/07/23 05:54*	*1*

Client Sample ID: FB-1-O-231117
Lab Sample ID: 410-151876-9

Date Collected: 11/17/23 11:24
Matrix: Water
Date Received: 11/18/23 10:00

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/28/23 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/28/23 20:06*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		12/01/23 08:10	12/02/23 01:29	1
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		12/01/23 08:06	12/07/23 06:40	1
C24-C40	ND		250	100	ug/L		12/01/23 08:10	12/02/23 01:29	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		12/01/23 08:06	12/07/23 06:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*12/01/23 08:10*	*12/02/23 01:29*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*12/01/23 08:06*	*12/07/23 06:40*	*1*

Client Sample ID: RB-1-R-231117
Lab Sample ID: 410-151876-10

Date Collected: 11/17/23 11:34
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 11:41	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 11:41	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 11:41	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 11:41	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*		*11/30/23 11:41*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/30/23 11:41*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/30/23 11:41*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/30/23 11:41*	*1*

Client Sample ID: RB-1-R-231117
Lab Sample ID: 410-151876-10
Date Collected: 11/17/23 11:34
Matrix: Water
Date Received: 11/18/23 10:00

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/28/23 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/28/23 20:31*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**59**	**J**	100	46	ug/L		12/01/23 08:10	12/02/23 01:52	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		12/01/23 08:06	12/07/23 07:03	1
C24-C40	ND		260	100	ug/L		12/01/23 08:10	12/02/23 01:52	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		12/01/23 08:06	12/07/23 07:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*12/01/23 08:10*	*12/02/23 01:52*	*1*
o- terphenyl (Surr)	*44*	*S1- cn*	*50 - 150*	*12/01/23 08:06*	*12/07/23 07:03*	*1*
o- terphenyl (Surr)	*54*		*50 - 150*	*12/08/23 15:16*	*12/11/23 13:32*	*1*

Client Sample ID: MW-25-W-231116
Lab Sample ID: 410-151876-11
Date Collected: 11/16/23 09:25
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.4**		1.0	0.30	ug/L			11/29/23 21:49	1
Ethylbenzene	**1.5**		1.0	0.40	ug/L			11/29/23 21:49	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 21:49	1
Toluene	**0.46**	**J**	1.0	0.30	ug/L			11/29/23 21:49	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*11/29/23 21:49*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/29/23 21:49*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 21:49*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/29/23 21:49*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**900**		250	43	ug/L			11/28/23 20:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*97*		*50 - 150*		*11/28/23 20:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**150**		100	46	ug/L		11/30/23 15:28	12/02/23 01:06	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 05:30	1
C24-C40	ND		250	100	ug/L		11/30/23 15:28	12/02/23 01:06	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/30/23 15:33	12/07/23 05:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*72*		*50 - 150*	*11/30/23 15:28*	*12/02/23 01:06*	*1*
o- terphenyl (Surr)	*65*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 05:30*	*1*

Client Sample ID: D-10-W-231116
Lab Sample ID: 410-151876-12

Date Collected: 11/16/23 10:25
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 22:12	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 22:12	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 22:12	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 22:12	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 22:12*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 22:12*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 22:12*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/29/23 22:12*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**93**	**J**	250	43	ug/L			11/28/23 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*103*		*50 - 150*		*11/28/23 21:22*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**1900**		100	46	ug/L		11/30/23 15:28	12/02/23 01:29	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		11/30/23 15:33	12/07/23 05:54	1
C24-C40	**190**	**J**	260	100	ug/L		11/30/23 15:28	12/02/23 01:29	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 05:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*62*		*50 - 150*	*11/30/23 15:28*	*12/02/23 01:29*	*1*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 05:54*	*1*

Client Sample ID: D-7-W-231116
Lab Sample ID: 410-151876-13

Date Collected: 11/16/23 11:40
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 22:36	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 22:36	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 22:36	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 22:36	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*11/29/23 22:36*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 22:36*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 22:36*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 22:36*	*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	43	ug/L			11/28/23 21:48	1

Client Sample ID: D-7-W-231116
Lab Sample ID: 410-151876-13

Date Collected: 11/16/23 11:40
Matrix: Water
Date Received: 11/18/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*98*		*50 - 150*		*11/28/23 21:48*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**420**		100	47	ug/L		11/30/23 15:28	12/02/23 01:52	1
C12-C24 with Silica Gel clean up	ND	cn	100	47	ug/L		11/30/23 15:33	12/07/23 06:17	1
C24-C40	**110**	**J**	260	100	ug/L		11/30/23 15:28	12/02/23 01:52	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*73*		*50 - 150*	*11/30/23 15:28*	*12/02/23 01:52*	*1*
o- terphenyl (Surr)	*65*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 06:17*	*1*

Client Sample ID: MW-22-W-231116
Lab Sample ID: 410-151876-14

Date Collected: 11/16/23 12:40
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 23:00	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 23:00	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 23:00	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 23:00	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 23:00*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 23:00*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/29/23 23:00*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/29/23 23:00*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**76**	**J**	250	43	ug/L			11/28/23 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	*100*		*50 - 150*		*11/28/23 22:13*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**4100**		100	47	ug/L		11/30/23 15:28	12/02/23 03:01	1
C12-C24 with Silica Gel clean up	ND	cn	100	47	ug/L		11/30/23 15:33	12/07/23 06:40	1
C24-C40	**1200**		260	100	ug/L		11/30/23 15:28	12/02/23 03:01	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 06:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o- terphenyl (Surr)	*56*		*50 - 150*	*11/30/23 15:28*	*12/02/23 03:01*	*1*
o- terphenyl (Surr)	*63*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 06:40*	*1*

Client Sample ID: D-06-W-231116
Lab Sample ID: 410-151876-15

Date Collected: 11/16/23 14:25
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 23:23	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 23:23	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 23:23	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 23:23	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 23:23*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 23:23*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 23:23*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 23:23*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**250**		250	43	ug/L			11/28/23 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*11/28/23 22:39*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**2600**		100	47	ug/L		11/30/23 15:28	12/02/23 02:15	1
C12-C24 with Silica Gel clean up	**54**	**J cn**	100	47	ug/L		11/30/23 15:33	12/07/23 07:03	1
C24-C40	**280**		260	100	ug/L		11/30/23 15:28	12/02/23 02:15	1
C24-C40 with Silica Gel clean up	**130**	**J cn**	260	100	ug/L		11/30/23 15:33	12/07/23 07:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*11/30/23 15:28*	*12/02/23 02:15*	*1*
o- terphenyl (Surr)	*67*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 07:03*	*1*
o- terphenyl (Surr)	*62*		*50 - 150*	*12/07/23 15:43*	*12/09/23 03:47*	*1*
n-Decanoic Acid (Surr)	*0.005*		*0 - 1*	*12/07/23 15:43*	*12/09/23 03:47*	*1*

Client Sample ID: MW-18-W-231116
Lab Sample ID: 410-151876-16

Date Collected: 11/16/23 15:28
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/29/23 23:47	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 23:47	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 23:47	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 23:47	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*11/29/23 23:47*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/29/23 23:47*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/29/23 23:47*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/29/23 23:47*	*1*

Client Sample ID: MW-18-W-231116
Lab Sample ID: 410-151876-16

Date Collected: 11/16/23 15:28
Matrix: Water
Date Received: 11/18/23 10:00

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	550		250	43	ug/L			11/28/23 23:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*		*11/28/23 23:04*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	1300		100	46	ug/L		11/30/23 15:28	12/02/23 02:38	1
C12-C24 with Silica Gel clean up	59	J cn	100	46	ug/L		11/30/23 15:33	12/07/23 07:26	1
C24-C40	240	J	260	100	ug/L		11/30/23 15:28	12/02/23 02:38	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 07:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*75*		*50 - 150*	*11/30/23 15:28*	*12/02/23 02:38*	*1*
o- terphenyl (Surr)	*66*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 07:26*	*1*

Client Sample ID: DUP-1-WD-231116
Lab Sample ID: 410-151876-17

Date Collected: 11/16/23 12:10
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 00:11	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 00:11	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 00:11	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 00:11	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*11/30/23 00:11*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/30/23 00:11*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/30/23 00:11*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/30/23 00:11*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	660	J cn	2500	430	ug/L			11/30/23 15:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*	*cn*	*50 - 150*		*11/30/23 15:00*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	3900		100	47	ug/L		11/30/23 15:28	12/02/23 03:24	1
C12-C24 with Silica Gel clean up	ND	cn	100	47	ug/L		11/30/23 15:33	12/07/23 07:49	1
C24-C40	1300		260	100	ug/L		11/30/23 15:28	12/02/23 03:24	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		11/30/23 15:33	12/07/23 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*53*		*50 - 150*	*11/30/23 15:28*	*12/02/23 03:24*	*1*
o- terphenyl (Surr)	*61*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 07:49*	*1*

Client Sample ID: DUP-2-WD-231117
Lab Sample ID: 410-151876-18

Date Collected: 11/17/23 09:30
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 13:41	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 13:41	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 13:41	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 13:41	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/30/23 13:41*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/30/23 13:41*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/30/23 13:41*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/30/23 13:41*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	2500	430	ug/L			11/30/23 15:26	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*104*	*cn*	*50 - 150*		*11/30/23 15:26*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**4500**		100	47	ug/L		12/01/23 08:10	12/02/23 02:15	1
C12-C24 with Silica Gel clean up	ND	cn	100	47	ug/L		12/01/23 08:06	12/07/23 07:26	1
C24-C40	**850**		260	100	ug/L		12/01/23 08:10	12/02/23 02:15	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		12/01/23 08:06	12/07/23 07:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*74*		*50 - 150*	*12/01/23 08:10*	*12/02/23 02:15*	*1*
o- terphenyl (Surr)	*49*	*S1- cn*	*50 - 150*	*12/01/23 08:06*	*12/07/23 07:26*	*1*
o- terphenyl (Surr)	*51*		*50 - 150*	*12/08/23 15:16*	*12/11/23 13:55*	*1*

Client Sample ID: MW-13-W-231117
Lab Sample ID: 410-151876-19

Date Collected: 11/17/23 09:15
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 14:05	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 14:05	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 14:05	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 14:05	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*80 - 120*		*11/30/23 14:05*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/30/23 14:05*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/30/23 14:05*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/30/23 14:05*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	**220**	**J cn**	1300	220	ug/L			11/30/23 15:51	5

Client Sample ID: MW-13-W-231117
Lab Sample ID: 410-151876-19

Date Collected: 11/17/23 09:15
Matrix: Water
Date Received: 11/18/23 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*	*cn*	*50 - 150*		*11/30/23 15:51*	*5*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**3900**		100	46	ug/L		12/01/23 08:10	12/02/23 02:38	1
C12-C24 with Silica Gel clean up	ND	cn	100	46	ug/L		12/01/23 08:06	12/07/23 07:49	1
C24-C40	**440**		260	100	ug/L		12/01/23 08:10	12/02/23 02:38	1
C24-C40 with Silica Gel clean up	ND	cn	260	100	ug/L		12/01/23 08:06	12/07/23 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*12/01/23 08:10*	*12/02/23 02:38*	*1*
o- terphenyl (Surr)	*47*	*S1- cn*	*50 - 150*	*12/01/23 08:06*	*12/07/23 07:49*	*1*
o- terphenyl (Surr)	*41*	*S1-*	*50 - 150*	*12/08/23 15:16*	*12/11/23 14:18*	*1*

Client Sample ID: D-01-W-231117
Lab Sample ID: 410-151876-20

Date Collected: 11/17/23 10:10
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/30/23 14:29	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 14:29	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 14:29	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 14:29	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*		*11/30/23 14:29*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/30/23 14:29*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/30/23 14:29*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/30/23 14:29*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND	cn	2500	430	ug/L			11/30/23 16:17	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*104*	*cn*	*50 - 150*		*11/30/23 16:17*	*10*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	**4300**		100	47	ug/L		12/01/23 08:10	12/02/23 03:01	1
C12-C24 with Silica Gel clean up	**52**	**J cn**	100	47	ug/L		12/01/23 08:06	12/07/23 08:12	1
C24-C40	**780**		260	100	ug/L		12/01/23 08:10	12/02/23 03:01	1
C24-C40 with Silica Gel clean up	**920**	**cn**	260	100	ug/L		12/01/23 08:06	12/07/23 08:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*70*		*50 - 150*	*12/01/23 08:10*	*12/02/23 03:01*	*1*
o- terphenyl (Surr)	*35*	*S1- cn*	*50 - 150*	*12/01/23 08:06*	*12/07/23 08:12*	*1*
o- terphenyl (Surr)	*74*		*50 - 150*	*12/08/23 15:16*	*12/11/23 14:41*	*1*

Client Sample ID: TB-4-T-231117
Lab Sample ID: 410-151876-21

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/22/23 16:47	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 16:47	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 16:47	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 16:47	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/22/23 16:47*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/22/23 16:47*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/22/23 16:47*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 16:47*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	49	J	250	43	ug/L			11/21/23 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/21/23 14:52*	*1*

Client Sample ID: TB-3-T-231117
Lab Sample ID: 410-151876-22

Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/18/23 10:00

Method: SW846 8260D/UST - 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			11/22/23 17:10	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 17:10	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 17:10	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 17:10	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*80 - 120*		*11/22/23 17:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/22/23 17:10*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/22/23 17:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/22/23 17:10*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C7-C12 (1C)	ND		250	43	ug/L			11/21/23 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*101*		*50 - 150*		*11/21/23 15:17*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-151876-1	D-22-W-231116	98	98	101	99
410-151876-2	MW-34-W-231116	99	97	101	99
410-151876-2 MS	MW-34-W-231116	101	100	101	99
410-151876-2 MSD	MW-34-W-231116	100	100	100	99
410-151876-3	MW-21-W-231116	99	96	100	98
410-151876-4	MW-32-W-231116	99	98	101	99
410-151876-5	D-03A-W-231116	99	98	101	99
410-151876-6	MW-14-W-231116	100	96	101	98
410-151876-7	MW-19-W-231117	99	100	101	99
410-151876-8	D-14-W-231117	92	98	100	95
410-151876-10	RB-1-R-231117	91	99	98	97
410-151876-11	MW-25-W-231116	98	99	101	98
410-151876-12	D-10-W-231116	99	98	101	98
410-151876-13	D-7-W-231116	100	98	101	99
410-151876-14	MW-22-W-231116	99	98	100	98
410-151876-15	D-06-W-231116	99	98	101	99
410-151876-16	MW-18-W-231116	100	99	101	99
410-151876-17	DUP-1-WD-231116	100	99	100	99
410-151876-18	DUP-2-WD-231117	92	97	97	96
410-151876-19	MW-13-W-231117	89	99	96	97
410-151876-20	D-01-W-231117	92	99	96	95
410-151876-21	TB-4-T-231117	93	96	100	99
410-151876-22	TB-3-T-231117	93	97	98	99
LCS 410-446440/4	Lab Control Sample	95	99	99	99
LCS 410-448049/4	Lab Control Sample	101	100	100	100
LCS 410-448445/4	Lab Control Sample	92	98	97	97
LCSD 410-446440/5	Lab Control Sample Dup	98	98	100	99
LCSD 410-448049/5	Lab Control Sample Dup	101	99	100	99
LCSD 410-448445/5	Lab Control Sample Dup	91	99	98	97
MB 410-446440/6	Method Blank	94	96	101	98
MB 410-448049/6	Method Blank	99	98	100	100
MB 410-448445/6	Method Blank	90	96	97	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1
Lab Sample ID	Client Sample ID	(50-150)
410-151876-1	D-22-W-231116	103
410-151876-2	MW-34-W-231116	99
410-151876-2 MS	MW-34-W-231116	89
410-151876-2 MSD	MW-34-W-231116	90
410-151876-3	MW-21-W-231116	97

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		TFT-F1							
Lab Sample ID	Client Sample ID	(50-150)							
410-151876-4	MW-32-W-231116	101							
410-151876-5	D-03A-W-231116	101							
410-151876-6	MW-14-W-231116	98							
410-151876-7	MW-19-W-231117	97							
410-151876-8	D-14-W-231117	99							
410-151876-9	FB-1-O-231117	98							
410-151876-10	RB-1-R-231117	98							
410-151876-11	MW-25-W-231116	97							
410-151876-12	D-10-W-231116	103							
410-151876-13	D-7-W-231116	98							
410-151876-14	MW-22-W-231116	100							
410-151876-15	D-06-W-231116	96							
410-151876-16	MW-18-W-231116	96							
410-151876-17	DUP-1-WD-231116	102 cn							
410-151876-18	DUP-2-WD-231117	104 cn							
410-151876-19	MW-13-W-231117	102 cn							
410-151876-20	D-01-W-231117	104 cn							
410-151876-21	TB-4-T-231117	102							
410-151876-22	TB-3-T-231117	101							
LCS 410-445905/6	Lab Control Sample	92							
LCS 410-447337/6	Lab Control Sample	91							
LCS 410-448447/6	Lab Control Sample	93							
LCSD 410-445905/7	Lab Control Sample Dup	93							
LCSD 410-447337/7	Lab Control Sample Dup	91							
LCSD 410-448447/7	Lab Control Sample Dup	96							
MB 410-445905/5	Method Blank	102							
MB 410-447337/5	Method Blank	99							
MB 410-448447/5	Method Blank	102							

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		OTP	NDA						
Lab Sample ID	Client Sample ID	(50-150)	(0-1)						
410-151876-1	D-22-W-231116	83							
410-151876-1	D-22-W-231116	73 cn							
410-151876-1 DU	D-22-W-231116	74							
410-151876-1 DU	D-22-W-231116	62 cn							
410-151876-2	MW-34-W-231116	63							
410-151876-2	MW-34-W-231116	56 cn							
410-151876-2 MS	MW-34-W-231116	64							
410-151876-2 MS	MW-34-W-231116	68 cn							
410-151876-2 MSD	MW-34-W-231116	68							
410-151876-2 MSD	MW-34-W-231116	65 cn							
410-151876-3	MW-21-W-231116	79							
410-151876-3	MW-21-W-231116	61 cn							
410-151876-4	MW-32-W-231116	76							

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		OTP	NDA								
Lab Sample ID	Client Sample ID	(50-150)	(0-1)								
410-151876-4	MW-32-W-231116	68 cn									
410-151876-5	D-03A-W-231116	53									
410-151876-5	D-03A-W-231116	57 cn									
410-151876-6	MW-14-W-231116	74									
410-151876-6	MW-14-W-231116	62 cn									
410-151876-7	MW-19-W-231117	66									
410-151876-7	MW-19-W-231117	62									
410-151876-7 DU	MW-19-W-231117	55									
410-151876-7 DU	MW-19-W-231117	55									
410-151876-8	D-14-W-231117	72									
410-151876-8	D-14-W-231117	53									
410-151876-8 DU	D-14-W-231117	76									
410-151876-8 DU	D-14-W-231117	56									
410-151876-9	FB-1-O-231117	73									
410-151876-9	FB-1-O-231117	62									
410-151876-10	RB-1-R-231117	61									
410-151876-10	RB-1-R-231117	44 S1- cn									
410-151876-10	RB-1-R-231117	54									
410-151876-11	MW-25-W-231116	72									
410-151876-11	MW-25-W-231116	65 cn									
410-151876-12	D-10-W-231116	62									
410-151876-12	D-10-W-231116	62 cn									
410-151876-13	D-7-W-231116	73									
410-151876-13	D-7-W-231116	65 cn									
410-151876-14	MW-22-W-231116	56									
410-151876-14	MW-22-W-231116	63 cn									
410-151876-15	D-06-W-231116	75									
410-151876-15	D-06-W-231116	67 cn									
410-151876-15	D-06-W-231116	62	0.005								
410-151876-16	MW-18-W-231116	75									
410-151876-16	MW-18-W-231116	66 cn									
410-151876-17	DUP-1-WD-231116	53									
410-151876-17	DUP-1-WD-231116	61 cn									
410-151876-18	DUP-2-WD-231117	74									
410-151876-18	DUP-2-WD-231117	49 S1- cn									
410-151876-18	DUP-2-WD-231117	51									
410-151876-19	MW-13-W-231117	61									
410-151876-19	MW-13-W-231117	47 S1- cn									
410-151876-19	MW-13-W-231117	41 S1-									
410-151876-20	D-01-W-231117	70									
410-151876-20	D-01-W-231117	35 S1- cn									
410-151876-20	D-01-W-231117	74									
LCS 410-448722/2-A	Lab Control Sample	70									
LCS 410-448723/2-B	Lab Control Sample	70 cn									
LCS 410-448924/2-B	Lab Control Sample	62									
LCS 410-448928/2-A	Lab Control Sample	72									
LCS 410-451387/2-B	Lab Control Sample	65									
LCS 410-451914/2-B	Lab Control Sample	61	0.5								
LCSD 410-448924/3-B	Lab Control Sample Dup	60									
LCSD 410-448928/3-A	Lab Control Sample Dup	77									

Surrogate Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		OTP	NDA								
Lab Sample ID	Client Sample ID	(50-150)	(0-1)								
LCSD 410-451387/3-B	Lab Control Sample Dup	55									
LCSD 410-451914/3-B	Lab Control Sample Dup	61	0.3								
MB 410-448722/1-A	Method Blank	61									
MB 410-448723/1-B	Method Blank	64 cn									
MB 410-448924/1-B	Method Blank	56									
MB 410-448928/1-A	Method Blank	73									
MB 410-451387/1-B	Method Blank	53									
MB 410-451914/1-B	Method Blank	73	0.0005								

Surrogate Legend

OTP = o- terphenyl (Surr)

NDA = n-Decanoic Acid (Surr)

Method: 8260D/UST - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-446440/6
Matrix: Water
Analysis Batch: 446440

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			11/22/23 14:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/22/23 14:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/22/23 14:24	1
Toluene	ND		1.0	0.30	ug/L			11/22/23 14:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/22/23 14:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*80 - 120*		*11/22/23 14:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/22/23 14:24*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/22/23 14:24*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/22/23 14:24*	*1*

Lab Sample ID: LCS 410-446440/4
Matrix: Water
Analysis Batch: 446440

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	19.0		ug/L		95	80 - 120		
Ethylbenzene			20.0	18.6		ug/L		93	80 - 120		
Methyl tertiary butyl ether			20.0	19.9		ug/L		100	69 - 122		
Toluene			20.0	18.9		ug/L		94	80 - 120		
Xylenes, Total			60.0	57.5		ug/L		96	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 410-446440/5
Matrix: Water
Analysis Batch: 446440

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	18.6		ug/L		93	80 - 120	2	30
Ethylbenzene			20.0	18.0		ug/L		90	80 - 120	3	30
Methyl tertiary butyl ether			20.0	18.7		ug/L		93	69 - 122	7	30
Toluene			20.0	18.4		ug/L		92	80 - 120	2	30
Xylenes, Total			60.0	55.9		ug/L		93	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-448049/6
Matrix: Water
Analysis Batch: 448049

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			11/29/23 15:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/29/23 15:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/29/23 15:24	1
Toluene	ND		1.0	0.30	ug/L			11/29/23 15:24	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/29/23 15:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*11/29/23 15:24*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/29/23 15:24*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/29/23 15:24*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/29/23 15:24*	*1*

Lab Sample ID: LCS 410-448049/4
Matrix: Water
Analysis Batch: 448049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	20.7		ug/L		104	80 - 120		
Ethylbenzene			20.0	21.2		ug/L		106	80 - 120		
Methyl tertiary butyl ether			20.0	21.5		ug/L		107	69 - 122		
Toluene			20.0	20.7		ug/L		104	80 - 120		
Xylenes, Total			60.0	64.2		ug/L		107	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 410-448049/5
Matrix: Water
Analysis Batch: 448049

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	20.5		ug/L		103	80 - 120	1	30
Ethylbenzene			20.0	20.7		ug/L		104	80 - 120	2	30
Methyl tertiary butyl ether			20.0	21.6		ug/L		108	69 - 122	1	30
Toluene			20.0	20.1		ug/L		101	80 - 120	3	30
Xylenes, Total			60.0	63.7		ug/L		106	80 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-151876-2 MS
Matrix: Water
Analysis Batch: 448049

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		20.0	22.5		ug/L		113	80 - 120
Ethylbenzene	ND		20.0	23.2		ug/L		116	80 - 120
Methyl tertiary butyl ether	ND		20.0	21.9		ug/L		110	69 - 122
Toluene	ND		20.0	22.5		ug/L		113	80 - 120
Xylenes, Total	ND		60.0	70.3		ug/L		117	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 410-151876-2 MSD
Matrix: Water
Analysis Batch: 448049

Client Sample ID: MW-34-W-231116
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	22.7		ug/L		114	80 - 120	1	30
Ethylbenzene	ND		20.0	23.2		ug/L		116	80 - 120	0	30
Methyl tertiary butyl ether	ND		20.0	22.1		ug/L		110	69 - 122	1	30
Toluene	ND		20.0	22.6		ug/L		113	80 - 120	0	30
Xylenes, Total	ND		60.0	70.5		ug/L		118	80 - 120	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 410-448445/6
Matrix: Water
Analysis Batch: 448445

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			11/30/23 11:17	1
Ethylbenzene	ND		1.0	0.40	ug/L			11/30/23 11:17	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			11/30/23 11:17	1
Toluene	ND		1.0	0.30	ug/L			11/30/23 11:17	1
Xylenes, Total	ND		6.0	0.40	ug/L			11/30/23 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*		*11/30/23 11:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/30/23 11:17*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/30/23 11:17*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/30/23 11:17*	*1*

Method: 8260D/UST - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-448445/4
Matrix: Water
Analysis Batch: 448445

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	19.0		ug/L		95	80 - 120		
Ethylbenzene			20.0	18.3		ug/L		91	80 - 120		
Methyl tertiary butyl ether			20.0	19.1		ug/L		95	69 - 122		
Toluene			20.0	18.3		ug/L		92	80 - 120		
Xylenes, Total			60.0	55.0		ug/L		92	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 410-448445/5
Matrix: Water
Analysis Batch: 448445

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	18.7		ug/L		93	80 - 120	2	30
Ethylbenzene			20.0	17.9		ug/L		89	80 - 120	2	30
Methyl tertiary butyl ether			20.0	18.8		ug/L		94	69 - 122	1	30
Toluene			20.0	18.0		ug/L		90	80 - 120	2	30
Xylenes, Total			60.0	54.1		ug/L		90	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-445905/5
Matrix: Water
Analysis Batch: 445905

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	43	ug/L			11/21/23 13:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/21/23 13:08*	*1*

Lab Sample ID: LCS 410-445905/6
Matrix: Water
Analysis Batch: 445905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1080		ug/L		98	64 - 131		

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-445905/6
Matrix: Water
Analysis Batch: 445905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	92		50 - 150

Lab Sample ID: LCSD 410-445905/7
Matrix: Water
Analysis Batch: 445905

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	1110		ug/L		101	64 - 131	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	93		50 - 150

Lab Sample ID: MB 410-447337/5
Matrix: Water
Analysis Batch: 447337

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	43	ug/L			11/28/23 11:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	99		50 - 150		11/28/23 11:25	1

Lab Sample ID: LCS 410-447337/6
Matrix: Water
Analysis Batch: 447337

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	909		ug/L		83	64 - 131		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Lab Sample ID: LCSD 410-447337/7
Matrix: Water
Analysis Batch: 447337

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	930		ug/L		85	64 - 131	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	91		50 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 410-151876-2 MS
Matrix: Water
Analysis Batch: 447337

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)	ND		1120	974		ug/L		87	80 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*89*		*50 - 150*

Lab Sample ID: 410-151876-2 MSD
Matrix: Water
Analysis Batch: 447337

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)	ND		1120	981		ug/L		88	80 - 120	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*90*		*50 - 150*

Lab Sample ID: MB 410-448447/5
Matrix: Water
Analysis Batch: 448447

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	43	ug/L			11/30/23 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid) (1C)	*102*		*50 - 150*		*11/30/23 12:27*	*1*

Lab Sample ID: LCS 410-448447/6
Matrix: Water
Analysis Batch: 448447

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C7-C12 (1C)			1100	1090		ug/L		99	64 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*93*		*50 - 150*

Lab Sample ID: LCSD 410-448447/7
Matrix: Water
Analysis Batch: 448447

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C7-C12 (1C)			1100	1140		ug/L		104	64 - 131	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid) (1C)	*96*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-448722/1-A
Matrix: Water
Analysis Batch: 449247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448722

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		11/30/23 15:28	12/01/23 20:07	1
C24-C40	ND		250	100	ug/L		11/30/23 15:28	12/01/23 20:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*61*		*50 - 150*	*11/30/23 15:28*	*12/01/23 20:07*	*1*

Lab Sample ID: LCS 410-448722/2-A
Matrix: Water
Analysis Batch: 449247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448722

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			600	239		ug/L		40	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*70*		*50 - 150*

Lab Sample ID: 410-151876-2 MS
Matrix: Water
Analysis Batch: 449247

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA
Prep Batch: 448722

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24	ND		613	211		ug/L		34	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*64*		*50 - 150*

Lab Sample ID: 410-151876-2 MSD
Matrix: Water
Analysis Batch: 449247

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA
Prep Batch: 448722

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24	ND		609	239		ug/L		39	30 - 115	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*68*		*50 - 150*

Lab Sample ID: 410-151876-1 DU
Matrix: Water
Analysis Batch: 449247

Client Sample ID: D-22-W-231116
Prep Type: Total/NA
Prep Batch: 448722

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	500			424		ug/L				16	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*74*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-448723/1-B
Matrix: Water
Analysis Batch: 450931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448723

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND	cn	100	45	ug/L		11/30/23 15:33	12/07/23 00:31	1
C24-C40 with Silica Gel clean up	ND	cn	250	100	ug/L		11/30/23 15:33	12/07/23 00:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*64*	*cn*	*50 - 150*	*11/30/23 15:33*	*12/07/23 00:31*	*1*

Lab Sample ID: LCS 410-448723/2-B
Matrix: Water
Analysis Batch: 450931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448723

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	228	cn	ug/L		38	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*70*	*cn*	*50 - 150*

Lab Sample ID: 410-151876-2 MS
Matrix: Water
Analysis Batch: 450931

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA
Prep Batch: 448723

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up	ND	cn	613	202	cn	ug/L		33	30 - 115		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o- terphenyl (Surr)	*68*	*cn*	*50 - 150*

Lab Sample ID: 410-151876-2 MSD
Matrix: Water
Analysis Batch: 450931

Client Sample ID: MW-34-W-231116
Prep Type: Total/NA
Prep Batch: 448723

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	cn	609	210	cn	ug/L		35	30 - 115	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o- terphenyl (Surr)	*65*	*cn*	*50 - 150*

Lab Sample ID: 410-151876-1 DU
Matrix: Water
Analysis Batch: 450931

Client Sample ID: D-22-W-231116
Prep Type: Total/NA
Prep Batch: 448723

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND	cn		ND	cn	ug/L				NC	20
C24-C40 with Silica Gel clean up	ND	cn		ND	cn	ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*62*	*cn*	*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 410-448924/1-B
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 450932
Prep Batch: 448924

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		12/01/23 08:06	12/07/23 00:31	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		12/01/23 08:06	12/07/23 00:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*56*		*50 - 150*	*12/01/23 08:06*	*12/07/23 00:31*	*1*

Lab Sample ID: LCS 410-448924/2-B
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 450932
Prep Batch: 448924

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	214		ug/L		36	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*62*		*50 - 150*

Lab Sample ID: LCSD 410-448924/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 450932
Prep Batch: 448924

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	214		ug/L		36	14 - 115	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*60*		*50 - 150*

Lab Sample ID: 410-151876-7 DU
Client Sample ID: MW-19-W-231117
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 450932
Prep Batch: 448924

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	81	J		69.1	J	ug/L				15	20
C24-C40 with Silica Gel clean up	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*55*		*50 - 150*

Lab Sample ID: 410-151876-8 DU
Client Sample ID: D-14-W-231117
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 450932
Prep Batch: 448924

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24 with Silica Gel clean up	ND			ND		ug/L				NC	20
C24-C40 with Silica Gel clean up	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*56*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-448928/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 449243
Prep Batch: 448928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24	ND		100	45	ug/L		12/01/23 08:10	12/01/23 20:07	1
C24-C40	ND		250	100	ug/L		12/01/23 08:10	12/01/23 20:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*12/01/23 08:10*	*12/01/23 20:07*	*1*

Lab Sample ID: LCS 410-448928/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 449243
Prep Batch: 448928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24			600	251		ug/L		42	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*72*		*50 - 150*

Lab Sample ID: LCSD 410-448928/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 449243
Prep Batch: 448928

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24			600	276		ug/L		46	14 - 115	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*77*		*50 - 150*

Lab Sample ID: 410-151876-7 DU
Client Sample ID: MW-19-W-231117
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 449747
Prep Batch: 448928

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	8600			8420		ug/L				2	20
C24-C40	1500			1560		ug/L				1	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*55*		*50 - 150*

Lab Sample ID: 410-151876-8 DU
Client Sample ID: D-14-W-231117
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 449243
Prep Batch: 448928

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C12-C24	ND			ND		ug/L				NC	20
C24-C40	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o- terphenyl (Surr)	*76*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 410-451387/1-B
Matrix: Water
Analysis Batch: 451978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451387

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		12/07/23 15:43	12/08/23 23:12	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		12/07/23 15:43	12/08/23 23:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*53*		*50 - 150*	*12/07/23 15:43*	*12/08/23 23:12*	*1*

Lab Sample ID: LCS 410-451387/2-B
Matrix: Water
Analysis Batch: 451978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451387

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	192		ug/L		32	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*65*		*50 - 150*

Lab Sample ID: LCSD 410-451387/3-B
Matrix: Water
Analysis Batch: 451978

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 451387

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	164		ug/L		27	14 - 115	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o- terphenyl (Surr)	*55*		*50 - 150*

Lab Sample ID: MB 410-451914/1-B
Matrix: Water
Analysis Batch: 452415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451914

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C12-C24 with Silica Gel clean up	ND		100	45	ug/L		12/08/23 15:16	12/11/23 12:24	1
C24-C40 with Silica Gel clean up	ND		250	100	ug/L		12/08/23 15:16	12/11/23 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr)	*73*		*50 - 150*	*12/08/23 15:16*	*12/11/23 12:24*	*1*
n-Decanoic Acid (Surr)	*0.0005*		*0 - 1*	*12/08/23 15:16*	*12/11/23 12:24*	*1*

Lab Sample ID: LCS 410-451914/2-B
Matrix: Water
Analysis Batch: 452415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451914

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C12-C24 with Silica Gel clean up			600	150		ug/L		25	14 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr)	*61*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 410-451914/2-B
Matrix: Water
Analysis Batch: 452415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451914

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Decanoic Acid (Surr)	*0.5*		*0 - 1*

Lab Sample ID: LCSD 410-451914/3-B
Matrix: Water
Analysis Batch: 452415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 451914

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C12-C24 with Silica Gel clean up			600	152		ug/L		25	14 - 115	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o- terphenyl (Surr)	*61*		*50 - 150*
n-Decanoic Acid (Surr)	*0.3*		*0 - 1*

GC/MS VOA

Analysis Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-21	TB-4-T-231117	Total/NA	Water	8260D/UST	
410-151876-22	TB-3-T-231117	Total/NA	Water	8260D/UST	
MB 410-446440/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-446440/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-446440/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

Analysis Batch: 448049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	8260D/UST	
410-151876-2	MW-34-W-231116	Total/NA	Water	8260D/UST	
410-151876-3	MW-21-W-231116	Total/NA	Water	8260D/UST	
410-151876-4	MW-32-W-231116	Total/NA	Water	8260D/UST	
410-151876-5	D-03A-W-231116	Total/NA	Water	8260D/UST	
410-151876-6	MW-14-W-231116	Total/NA	Water	8260D/UST	
410-151876-7	MW-19-W-231117	Total/NA	Water	8260D/UST	
410-151876-11	MW-25-W-231116	Total/NA	Water	8260D/UST	
410-151876-12	D-10-W-231116	Total/NA	Water	8260D/UST	
410-151876-13	D-7-W-231116	Total/NA	Water	8260D/UST	
410-151876-14	MW-22-W-231116	Total/NA	Water	8260D/UST	
410-151876-15	D-06-W-231116	Total/NA	Water	8260D/UST	
410-151876-16	MW-18-W-231116	Total/NA	Water	8260D/UST	
410-151876-17	DUP-1-WD-231116	Total/NA	Water	8260D/UST	
MB 410-448049/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-448049/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-448049/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	8260D/UST	
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	8260D/UST	

Analysis Batch: 448445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-8	D-14-W-231117	Total/NA	Water	8260D/UST	
410-151876-10	RB-1-R-231117	Total/NA	Water	8260D/UST	
410-151876-18	DUP-2-WD-231117	Total/NA	Water	8260D/UST	
410-151876-19	MW-13-W-231117	Total/NA	Water	8260D/UST	
410-151876-20	D-01-W-231117	Total/NA	Water	8260D/UST	
MB 410-448445/6	Method Blank	Total/NA	Water	8260D/UST	
LCS 410-448445/4	Lab Control Sample	Total/NA	Water	8260D/UST	
LCSD 410-448445/5	Lab Control Sample Dup	Total/NA	Water	8260D/UST	

GC VOA

Analysis Batch: 445905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-21	TB-4-T-231117	Total/NA	Water	NWTPH-Gx	
410-151876-22	TB-3-T-231117	Total/NA	Water	NWTPH-Gx	
MB 410-445905/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-445905/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-445905/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC VOA

Analysis Batch: 447337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-2	MW-34-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-3	MW-21-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-4	MW-32-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-5	D-03A-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-6	MW-14-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-7	MW-19-W-231117	Total/NA	Water	NWTPH-Gx	
410-151876-8	D-14-W-231117	Total/NA	Water	NWTPH-Gx	
410-151876-9	FB-1-O-231117	Total/NA	Water	NWTPH-Gx	
410-151876-10	RB-1-R-231117	Total/NA	Water	NWTPH-Gx	
410-151876-11	MW-25-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-12	D-10-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-13	D-7-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-14	MW-22-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-15	D-06-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-16	MW-18-W-231116	Total/NA	Water	NWTPH-Gx	
MB 410-447337/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-447337/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-447337/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	NWTPH-Gx	
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 448447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-17	DUP-1-WD-231116	Total/NA	Water	NWTPH-Gx	
410-151876-18	DUP-2-WD-231117	Total/NA	Water	NWTPH-Gx	
410-151876-19	MW-13-W-231117	Total/NA	Water	NWTPH-Gx	
410-151876-20	D-01-W-231117	Total/NA	Water	NWTPH-Gx	
MB 410-448447/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 410-448447/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 410-448447/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 448722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	3510C	
410-151876-2	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-3	MW-21-W-231116	Total/NA	Water	3510C	
410-151876-4	MW-32-W-231116	Total/NA	Water	3510C	
410-151876-5	D-03A-W-231116	Total/NA	Water	3510C	
410-151876-6	MW-14-W-231116	Total/NA	Water	3510C	
410-151876-11	MW-25-W-231116	Total/NA	Water	3510C	
410-151876-12	D-10-W-231116	Total/NA	Water	3510C	
410-151876-13	D-7-W-231116	Total/NA	Water	3510C	
410-151876-14	MW-22-W-231116	Total/NA	Water	3510C	
410-151876-15	D-06-W-231116	Total/NA	Water	3510C	
410-151876-16	MW-18-W-231116	Total/NA	Water	3510C	
410-151876-17	DUP-1-WD-231116	Total/NA	Water	3510C	
MB 410-448722/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-448722/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 448722 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-1 DU	D-22-W-231116	Total/NA	Water	3510C	

Prep Batch: 448723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	3510C	
410-151876-2	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-3	MW-21-W-231116	Total/NA	Water	3510C	
410-151876-4	MW-32-W-231116	Total/NA	Water	3510C	
410-151876-5	D-03A-W-231116	Total/NA	Water	3510C	
410-151876-6	MW-14-W-231116	Total/NA	Water	3510C	
410-151876-11	MW-25-W-231116	Total/NA	Water	3510C	
410-151876-12	D-10-W-231116	Total/NA	Water	3510C	
410-151876-13	D-7-W-231116	Total/NA	Water	3510C	
410-151876-14	MW-22-W-231116	Total/NA	Water	3510C	
410-151876-15	D-06-W-231116	Total/NA	Water	3510C	
410-151876-16	MW-18-W-231116	Total/NA	Water	3510C	
410-151876-17	DUP-1-WD-231116	Total/NA	Water	3510C	
MB 410-448723/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-448723/2-B	Lab Control Sample	Total/NA	Water	3510C	
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	3510C	
410-151876-1 DU	D-22-W-231116	Total/NA	Water	3510C	

Prep Batch: 448924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-7	MW-19-W-231117	Total/NA	Water	3510C	
410-151876-8	D-14-W-231117	Total/NA	Water	3510C	
410-151876-9	FB-1-O-231117	Total/NA	Water	3510C	
410-151876-10	RB-1-R-231117	Total/NA	Water	3510C	
410-151876-18	DUP-2-WD-231117	Total/NA	Water	3510C	
410-151876-19	MW-13-W-231117	Total/NA	Water	3510C	
410-151876-20	D-01-W-231117	Total/NA	Water	3510C	
MB 410-448924/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-448924/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-448924/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
410-151876-7 DU	MW-19-W-231117	Total/NA	Water	3510C	
410-151876-8 DU	D-14-W-231117	Total/NA	Water	3510C	

Prep Batch: 448928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-7	MW-19-W-231117	Total/NA	Water	3510C	
410-151876-8	D-14-W-231117	Total/NA	Water	3510C	
410-151876-9	FB-1-O-231117	Total/NA	Water	3510C	
410-151876-10	RB-1-R-231117	Total/NA	Water	3510C	
410-151876-18	DUP-2-WD-231117	Total/NA	Water	3510C	
410-151876-19	MW-13-W-231117	Total/NA	Water	3510C	
410-151876-20	D-01-W-231117	Total/NA	Water	3510C	
MB 410-448928/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-448928/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 448928 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-448928/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
410-151876-7 DU	MW-19-W-231117	Total/NA	Water	3510C	
410-151876-8 DU	D-14-W-231117	Total/NA	Water	3510C	

Analysis Batch: 449243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-8	D-14-W-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-9	FB-1-O-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-10	RB-1-R-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-18	DUP-2-WD-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-19	MW-13-W-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-20	D-01-W-231117	Total/NA	Water	NWTPH-Dx	448928
MB 410-448928/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	448928
LCS 410-448928/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	448928
LCSD 410-448928/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	448928
410-151876-8 DU	D-14-W-231117	Total/NA	Water	NWTPH-Dx	448928

Analysis Batch: 449247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-2	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-3	MW-21-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-4	MW-32-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-5	D-03A-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-6	MW-14-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-11	MW-25-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-12	D-10-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-13	D-7-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-14	MW-22-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-15	D-06-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-16	MW-18-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-17	DUP-1-WD-231116	Total/NA	Water	NWTPH-Dx	448722
MB 410-448722/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	448722
LCS 410-448722/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	448722
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	448722
410-151876-1 DU	D-22-W-231116	Total/NA	Water	NWTPH-Dx	448722

Analysis Batch: 449747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-7	MW-19-W-231117	Total/NA	Water	NWTPH-Dx	448928
410-151876-7 DU	MW-19-W-231117	Total/NA	Water	NWTPH-Dx	448928

Cleanup Batch: 450001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	3630C	448723
410-151876-2	MW-34-W-231116	Total/NA	Water	3630C	448723
410-151876-3	MW-21-W-231116	Total/NA	Water	3630C	448723
410-151876-4	MW-32-W-231116	Total/NA	Water	3630C	448723
410-151876-5	D-03A-W-231116	Total/NA	Water	3630C	448723
410-151876-6	MW-14-W-231116	Total/NA	Water	3630C	448723

GC Semi VOA (Continued)

Cleanup Batch: 450001 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-11	MW-25-W-231116	Total/NA	Water	3630C	448723
410-151876-12	D-10-W-231116	Total/NA	Water	3630C	448723
410-151876-13	D-7-W-231116	Total/NA	Water	3630C	448723
410-151876-14	MW-22-W-231116	Total/NA	Water	3630C	448723
410-151876-15	D-06-W-231116	Total/NA	Water	3630C	448723
410-151876-16	MW-18-W-231116	Total/NA	Water	3630C	448723
410-151876-17	DUP-1-WD-231116	Total/NA	Water	3630C	448723
MB 410-448723/1-B	Method Blank	Total/NA	Water	3630C	448723
LCS 410-448723/2-B	Lab Control Sample	Total/NA	Water	3630C	448723
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	3630C	448723
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	3630C	448723
410-151876-1 DU	D-22-W-231116	Total/NA	Water	3630C	448723

Cleanup Batch: 450018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-7	MW-19-W-231117	Total/NA	Water	3630C	448924
410-151876-8	D-14-W-231117	Total/NA	Water	3630C	448924
410-151876-9	FB-1-O-231117	Total/NA	Water	3630C	448924
410-151876-10	RB-1-R-231117	Total/NA	Water	3630C	448924
410-151876-18	DUP-2-WD-231117	Total/NA	Water	3630C	448924
410-151876-19	MW-13-W-231117	Total/NA	Water	3630C	448924
410-151876-20	D-01-W-231117	Total/NA	Water	3630C	448924
MB 410-448924/1-B	Method Blank	Total/NA	Water	3630C	448924
LCS 410-448924/2-B	Lab Control Sample	Total/NA	Water	3630C	448924
LCSD 410-448924/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	448924
410-151876-7 DU	MW-19-W-231117	Total/NA	Water	3630C	448924
410-151876-8 DU	D-14-W-231117	Total/NA	Water	3630C	448924

Analysis Batch: 450931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-1	D-22-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-2	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-3	MW-21-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-4	MW-32-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-5	D-03A-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-6	MW-14-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-11	MW-25-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-12	D-10-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-13	D-7-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-14	MW-22-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-15	D-06-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-16	MW-18-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-17	DUP-1-WD-231116	Total/NA	Water	NWTPH-Dx	450001
MB 410-448723/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	450001
LCS 410-448723/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	450001
410-151876-2 MS	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-2 MSD	MW-34-W-231116	Total/NA	Water	NWTPH-Dx	450001
410-151876-1 DU	D-22-W-231116	Total/NA	Water	NWTPH-Dx	450001

GC Semi VOA

Analysis Batch: 450932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-7	MW-19-W-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-8	D-14-W-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-9	FB-1-O-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-10	RB-1-R-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-18	DUP-2-WD-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-19	MW-13-W-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-20	D-01-W-231117	Total/NA	Water	NWTPH-Dx	450018
MB 410-448924/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	450018
LCS 410-448924/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	450018
LCSD 410-448924/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	450018
410-151876-7 DU	MW-19-W-231117	Total/NA	Water	NWTPH-Dx	450018
410-151876-8 DU	D-14-W-231117	Total/NA	Water	NWTPH-Dx	450018

Prep Batch: 451387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-15	D-06-W-231116	Total/NA	Water	3510C	
MB 410-451387/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Cleanup Batch: 451524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-15	D-06-W-231116	Total/NA	Water	3630C	451387
MB 410-451387/1-B	Method Blank	Total/NA	Water	3630C	451387
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	3630C	451387
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	451387

Prep Batch: 451914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-10	RB-1-R-231117	Total/NA	Water	3510C	
410-151876-18	DUP-2-WD-231117	Total/NA	Water	3510C	
410-151876-19	MW-13-W-231117	Total/NA	Water	3510C	
410-151876-20	D-01-W-231117	Total/NA	Water	3510C	
MB 410-451914/1-B	Method Blank	Total/NA	Water	3510C	
LCS 410-451914/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-451914/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 451978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-15	D-06-W-231116	Total/NA	Water	NWTPH-Dx	451524
MB 410-451387/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	451524
LCS 410-451387/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	451524
LCSD 410-451387/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	451524

Cleanup Batch: 452225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-10	RB-1-R-231117	Total/NA	Water	3630C	451914
410-151876-18	DUP-2-WD-231117	Total/NA	Water	3630C	451914
410-151876-19	MW-13-W-231117	Total/NA	Water	3630C	451914
410-151876-20	D-01-W-231117	Total/NA	Water	3630C	451914
MB 410-451914/1-B	Method Blank	Total/NA	Water	3630C	451914

GC Semi VOA (Continued)

Cleanup Batch: 452225 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-451914/2-B	Lab Control Sample	Total/NA	Water	3630C	451914
LCSD 410-451914/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	451914

Analysis Batch: 452415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-151876-10	RB-1-R-231117	Total/NA	Water	NWTPH-Dx	452225
410-151876-18	DUP-2-WD-231117	Total/NA	Water	NWTPH-Dx	452225
410-151876-19	MW-13-W-231117	Total/NA	Water	NWTPH-Dx	452225
410-151876-20	D-01-W-231117	Total/NA	Water	NWTPH-Dx	452225
MB 410-451914/1-B	Method Blank	Total/NA	Water	NWTPH-Dx	452225
LCS 410-451914/2-B	Lab Control Sample	Total/NA	Water	NWTPH-Dx	452225
LCSD 410-451914/3-B	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	452225

Lab Chronicle

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-22-W-231116
Lab Sample ID: 410-151876-1
Date Collected: 11/16/23 09:35
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 18:15
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 15:00
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 01:40
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/01/23 21:16

Client Sample ID: MW-34-W-231116
Lab Sample ID: 410-151876-2
Date Collected: 11/16/23 10:36
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 18:39
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 15:26
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 02:26
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/01/23 22:02

Client Sample ID: MW-21-W-231116
Lab Sample ID: 410-151876-3
Date Collected: 11/16/23 12:05
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 19:50
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 16:42
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 03:35
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/01/23 23:11

Client Sample ID: MW-32-W-231116
Lab Sample ID: 410-151876-4
Date Collected: 11/16/23 14:09
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 20:14
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 17:08
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 03:58

Lab Chronicle

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-32-W-231116
Lab Sample ID: 410-151876-4
Date Collected: 11/16/23 14:09
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/01/23 23:34

Client Sample ID: D-03A-W-231116
Lab Sample ID: 410-151876-5
Date Collected: 11/16/23 13:07
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 20:38
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 17:33
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 04:44
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/01/23 23:57

Client Sample ID: MW-14-W-231116
Lab Sample ID: 410-151876-6
Date Collected: 11/16/23 15:15
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 21:01
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 17:59
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 05:07
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 00:20

Client Sample ID: MW-19-W-231117
Lab Sample ID: 410-151876-7
Date Collected: 11/17/23 09:10
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 21:25
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 18:24
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		2	449747	KP5X	ELLE	12/05/23 00:55
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 05:07

Lab Chronicle

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: D-14-W-231117
Lab Sample ID: 410-151876-8
Date Collected: 11/17/23 10:15
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448445	UKAD	ELLE	11/30/23 13:17
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 18:50
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 00:20
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 05:54

Client Sample ID: FB-1-O-231117
Lab Sample ID: 410-151876-9
Date Collected: 11/17/23 11:24
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 20:06
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 01:29
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 06:40

Client Sample ID: RB-1-R-231117
Lab Sample ID: 410-151876-10
Date Collected: 11/17/23 11:34
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448445	UKAD	ELLE	11/30/23 11:41
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 20:31
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 01:52
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 07:03
Total/NA	Prep	3510C			451914	QJZ6	ELLE	12/08/23 15:16
Total/NA	Cleanup	3630C			452225	USL7	ELLE	12/11/23 04:40
Total/NA	Analysis	NWTPH-Dx		1	452415	IUSB	ELLE	12/11/23 13:32

Client Sample ID: MW-25-W-231116
Lab Sample ID: 410-151876-11
Date Collected: 11/16/23 09:25
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 21:49
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 20:57

Lab Chronicle

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: MW-25-W-231116
Lab Sample ID: 410-151876-11
Date Collected: 11/16/23 09:25
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 05:30
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 01:06

Client Sample ID: D-10-W-231116
Lab Sample ID: 410-151876-12
Date Collected: 11/16/23 10:25
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 22:12
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 21:22
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 05:54
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 01:29

Client Sample ID: D-7-W-231116
Lab Sample ID: 410-151876-13
Date Collected: 11/16/23 11:40
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 22:36
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 21:48
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 06:17
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 01:52

Client Sample ID: MW-22-W-231116
Lab Sample ID: 410-151876-14
Date Collected: 11/16/23 12:40
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 23:00
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 22:13
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 06:40
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 03:01

Client Sample ID: D-06-W-231116
Lab Sample ID: 410-151876-15

Date Collected: 11/16/23 14:25
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 23:23
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 22:39
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 07:03
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 02:15
Total/NA	Prep	3510C			451387	QJZ6	ELLE	12/07/23 15:43
Total/NA	Cleanup	3630C			451524	USL7	ELLE	12/08/23 00:38
Total/NA	Analysis	NWTPH-Dx		1	451978	IUSB	ELLE	12/09/23 03:47

Client Sample ID: MW-18-W-231116
Lab Sample ID: 410-151876-16

Date Collected: 11/16/23 15:28
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/29/23 23:47
Total/NA	Analysis	NWTPH-Gx		1	447337	SE8S	ELLE	11/28/23 23:04
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 07:26
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 02:38

Client Sample ID: DUP-1-WD-231116
Lab Sample ID: 410-151876-17

Date Collected: 11/16/23 12:10
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448049	UKAD	ELLE	11/30/23 00:11
Total/NA	Analysis	NWTPH-Gx		10	448447	SE8S	ELLE	11/30/23 15:00
Total/NA	Prep	3510C			448723	T9CY	ELLE	11/30/23 15:33
Total/NA	Cleanup	3630C			450001	K2IL	ELLE	12/04/23 19:30
Total/NA	Analysis	NWTPH-Dx		1	450931	KP5X	ELLE	12/07/23 07:49
Total/NA	Prep	3510C			448722	T9CY	ELLE	11/30/23 15:28
Total/NA	Analysis	NWTPH-Dx		1	449247	UHEW	ELLE	12/02/23 03:24

Client Sample ID: DUP-2-WD-231117
Lab Sample ID: 410-151876-18

Date Collected: 11/17/23 09:30
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448445	UKAD	ELLE	11/30/23 13:41
Total/NA	Analysis	NWTPH-Gx		10	448447	SE8S	ELLE	11/30/23 15:26

Client Sample ID: DUP-2-WD-231117
Lab Sample ID: 410-151876-18

Date Collected: 11/17/23 09:30
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 02:15
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 07:26
Total/NA	Prep	3510C			451914	QJZ6	ELLE	12/08/23 15:16
Total/NA	Cleanup	3630C			452225	USL7	ELLE	12/11/23 04:40
Total/NA	Analysis	NWTPH-Dx		1	452415	IUSB	ELLE	12/11/23 13:55

Client Sample ID: MW-13-W-231117
Lab Sample ID: 410-151876-19

Date Collected: 11/17/23 09:15
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448445	UKAD	ELLE	11/30/23 14:05
Total/NA	Analysis	NWTPH-Gx		5	448447	SE8S	ELLE	11/30/23 15:51
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 02:38
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 07:49
Total/NA	Prep	3510C			451914	QJZ6	ELLE	12/08/23 15:16
Total/NA	Cleanup	3630C			452225	USL7	ELLE	12/11/23 04:40
Total/NA	Analysis	NWTPH-Dx		1	452415	IUSB	ELLE	12/11/23 14:18

Client Sample ID: D-01-W-231117
Lab Sample ID: 410-151876-20

Date Collected: 11/17/23 10:10
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	448445	UKAD	ELLE	11/30/23 14:29
Total/NA	Analysis	NWTPH-Gx		10	448447	SE8S	ELLE	11/30/23 16:17
Total/NA	Prep	3510C			448928	QKX3	ELLE	12/01/23 08:10
Total/NA	Analysis	NWTPH-Dx		1	449243	UHEW	ELLE	12/02/23 03:01
Total/NA	Prep	3510C			448924	QKX3	ELLE	12/01/23 08:06
Total/NA	Cleanup	3630C			450018	USL7	ELLE	12/05/23 01:00
Total/NA	Analysis	NWTPH-Dx		1	450932	KP5X	ELLE	12/07/23 08:12
Total/NA	Prep	3510C			451914	QJZ6	ELLE	12/08/23 15:16
Total/NA	Cleanup	3630C			452225	USL7	ELLE	12/11/23 04:40
Total/NA	Analysis	NWTPH-Dx		1	452415	IUSB	ELLE	12/11/23 14:41

Lab Chronicle

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Client Sample ID: TB-4-T-231117
Lab Sample ID: 410-151876-21
Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 16:47
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 14:52

Client Sample ID: TB-3-T-231117
Lab Sample ID: 410-151876-22
Date Collected: 10/26/23 00:00
Matrix: Water
Date Received: 11/18/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D/UST		1	446440	UKAD	ELLE	11/22/23 17:10
Total/NA	Analysis	NWTPH-Gx		1	445905	SE8S	ELLE	11/21/23 15:17

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C457	04-11-24

Method Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Method	Method Description	Protocol	Laboratory
8260D/UST	Volatile Organic Compounds by GC/MS	SW846	ELLE
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ELLE
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM
Job ID: 410-151876-1
Project/Site: CEMREC Legacy Sites – Tacoma

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-151876-1	D-22-W-231116	Water	11/16/23 09:35	11/18/23 10:00
410-151876-2	MW-34-W-231116	Water	11/16/23 10:36	11/18/23 10:00
410-151876-3	MW-21-W-231116	Water	11/16/23 12:05	11/18/23 10:00
410-151876-4	MW-32-W-231116	Water	11/16/23 14:09	11/18/23 10:00
410-151876-5	D-03A-W-231116	Water	11/16/23 13:07	11/18/23 10:00
410-151876-6	MW-14-W-231116	Water	11/16/23 15:15	11/18/23 10:00
410-151876-7	MW-19-W-231117	Water	11/17/23 09:10	11/18/23 10:00
410-151876-8	D-14-W-231117	Water	11/17/23 10:15	11/18/23 10:00
410-151876-9	FB-1-O-231117	Water	11/17/23 11:24	11/18/23 10:00
410-151876-10	RB-1-R-231117	Water	11/17/23 11:34	11/18/23 10:00
410-151876-11	MW-25-W-231116	Water	11/16/23 09:25	11/18/23 10:00
410-151876-12	D-10-W-231116	Water	11/16/23 10:25	11/18/23 10:00
410-151876-13	D-7-W-231116	Water	11/16/23 11:40	11/18/23 10:00
410-151876-14	MW-22-W-231116	Water	11/16/23 12:40	11/18/23 10:00
410-151876-15	D-06-W-231116	Water	11/16/23 14:25	11/18/23 10:00
410-151876-16	MW-18-W-231116	Water	11/16/23 15:28	11/18/23 10:00
410-151876-17	DUP-1-WD-231116	Water	11/16/23 12:10	11/18/23 10:00
410-151876-18	DUP-2-WD-231117	Water	11/17/23 09:30	11/18/23 10:00
410-151876-19	MW-13-W-231117	Water	11/17/23 09:15	11/18/23 10:00
410-151876-20	D-01-W-231117	Water	11/17/23 10:10	11/18/23 10:00
410-151876-21	TB-4-T-231117	Water	10/26/23 00:00	11/18/23 10:00
410-151876-22	TB-3-T-231117	Water	10/26/23 00:00	11/18/23 10:00

Eurofins
2425 New Hol
Lancaster, P
Phone: 717-6

410-151876 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing

Client Info	Ier: LC, SC	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-101297-22634.3
Client Contact: Mr. Bradley Wynne		E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: Page ~~6 of 6~~ 1 of 3
Company: AECOM	PWSID:			Job #:
Address: 13355 Noel Road Suite 400	Due Date Requested:			
City: Dallas	TAT Requested (days):			
State, Zip: TX, 75240	Compliance Project: Δ Yes Δ No			
Phone: 972-735-7068(Tel)	PO #: 152363			
Email: bradley.wynne@aecom.com	WO #: 60701804			
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Gx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	NWTPH_Dx - NWTPH-Dx	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	A	A		
~~MW-29-W-231115~~	~~11/15/23~~	~~1458~~	~~G~~	~~W~~			✓	✓	✓	✓	8	
D-02-W-231116	11/16/23	935	G	W			✓	✓	✓	✓	8	2A Lab QA/QC
MW-34-W-231116		1030	G	W		Y	✓	✓	✓	✓	8	MS/MSD
MW-31-W-231116		1305	G	W			✓	✓	✓	✓	8	
MW-33-W-231116		1409	G	W			✓	✓	✓	✓	8	
D-03A-W-231116		1307	G	W			✓	✓	✓	✓	8	
MW-14-W-231116		1515	G	W			✓	✓	✓	✓	8	
MW-19-W-231117	11/17/23	910	G	W			✓	✓	✓	✓	8	
D-14-W-231117		1015	G	W			✓	✓	✓	✓	8	
FB-1-F-231117		1124					✓	✓		✓	5	Field Blank
RB-1-R-231117		1134					✓	✓	✓	✓	8	Rinsate Blank

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 11/17/23 1210	Company: AECOM	Received by:		Date/Time:	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time: 11/18/23 1000	Company ESET

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: IR 1.9/1.9 IR 0.3/0.3

Ver: 06/08/2021

12/12/2023

Eurofins Lancaster Laboratories Environme
2425 New Holland Pike
Lancaster, PA 17601
Phone 717-656-2300 Fax: 717-656-2681

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: SC, LC	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-101297-22634.2
Client Contact: Mr. Bradley Wynne	Phone:	E-Mail: Loran.Carter@et.eurofinsus.com	State of Origin:	Page: Page ~~2 of 3~~ 2 of 3
Company: AECOM	PWSID:			Job #:
Address: 13355 Noel Road Suite 400	Due Date Requested:			
City: Dallas	TAT Requested (days):			
State, Zip: TX, 75240	Compliance Project: Δ Yes Δ No			
Phone: 972-735-7068(Tel)	PO #: 152363			
Email: bradley.wynne@aecom.com	WO #: 60701804			
Project Name: CEMREC Legacy Sites – Tacoma	Project #: 41014252			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - NWTPH-Gx	NWTPH_Gx - NWTPH-Gx	8260D_UST - BTEX/MTBE	NWTPH_Dx - NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	A		
MW-25-W-231116	11/16/23	0925	G	W			1	1	1	1	8	
D-10-W-231116		1025					1	1	1	1	8	
~~D-04~~ D-7-W-231116		1140					1	1	1	1	8	
MW-22-W-231116		1240					1	1	1	1	8	
D-06-W-231116		1425					1	1	1	1	8	
MW-19-W-231116		1528					1	1	1	1	8	
DUP-1-WD-231116	11/16/23	1210	G	W			1	1	1	1	8	
DUP-2-WD-231117	11/17/23	0930	G	W			1	1	1	1	8	
MW-13-W-231117	11/17/23	0915	G	W			1	1	1	1	8	
D-01-W-231117	11/17/23	1010	G	W			1	1	1	1	8	
												LC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	11/17/23 1210	AECOM			
2				[signature]		
3				[signature]	11/18/23	ECNET

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.9/1.9 0.3/0.3

IM

Ver: 06/08/2021

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: LC, SC	Lab PM: Amek Carter (loran.carter@et.eurofinsus.com)	Carrier Tracking No(s):	COC No:
Client Contact: Brad Wynne (bradley.wynne@aecom.com) Christina Wheeler (christina.wheeler@aecom.com)	Phone: 972 358 4390 360 608 3212	E-Mail:	State of Origin:	Page: ~~1 of~~ 303 3of3
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 888 SW 5th Ave	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:
City: Portland	TAT Requested (days): 10 business days			
State, Zip: Oregon 97204	Compliance Project: Δ Yes Δ No			
Phone: 971 323 6262	PO #: 152363			
Email:	WO #:			
Project Name: CEMREC Legacy Sites - Tacoma	Project #:			
AECOM Project #: 60701804	SSOW#:			

Sample Identification (example: MW-10-W-YYMMDD)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil, Tissue, Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Gx	NWTPH-Dx	VOCs (EPA 8260) - full list	VOCs w/TCLP (EPA 8260) - full list	SVOCs (EPA 8270) - full list	SVOCs w/TCLP (EPA 8270) - full list	RCRA 8 Metals w/ TCLP (EPA 6010B)	Flash Point by ASTM D-93	pH	8260D_VST MTBE/BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:															
11/17 CC FB-3-T-231117	10/26/23	—	G	W			X	X	X	X	X	X	X	X	X			
TB-4-T-231117	10/26/23	—	—	W			X									X		
TB-3-T-231117	10/26/23	—	—	W			X									X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 11/17/23 1210	Company: AECOM	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/23 1610	Company: ELLET
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.9/1.9 3.3/0.3		

Login Sample Receipt Checklist

Client: AECOM

Job Number: 410-151876-1

Login Number: 151876

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: McCaskey, Jonathan

Question	Answer	Comment
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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, 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	
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	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	False	Headspace greater than 6mm in diameter in some but not all containers

Appendix E

Quality Assurance Project Plan and Sampling and Analysis Plan

2010 Quality Assurance Project Plan

REMEDIAL INVESTIGATION
QUALITY ASSURANCE PROJECT PLAN

Former Standard Oil Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

May 25, 2010

Prepared for:
Washington State Department of Ecology
Southwest Regional Office
Olympia, Washington

Prepared by:
Science Applications International Corporation
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

On Behalf of:
Chevron Environmental Management Company
145 S. State College Blvd.
Brea, California 92821

SAIC
From Science to Solutions

TABLE OF CONTENTS

1.0 PROJECT OBJECTIVES 1

2.0 PROJECT-SPECIFIC QUALITY ASSURANCE OBJECTIVES 1

- 2.1 Accuracy 1
- 2.2 Precision 1
- 2.3 Completeness 1
- 2.4 Representativeness 2
- 2.5 Comparability 2

3.0 SAMPLING PROCEDURES- DATA QUALITY ASSURANCE 2

- 3.1 Monitoring Equipment Calibration 2
- 3.2 Decontamination Procedures 2
- 3.3 Storage and Disposal of Residuals 2
- 3.4 Sample Storage, Packing, and Shipment 3

4.0 FIELD PROCEDURES 3

- 4.1 Sample Collection 3
- 4.2 Chain of Custody Procedures 3
- 4.3 Sample Identifiers 3
- 4.4 Sample Labels 3
- 4.5 Custody Seals 3
- 4.6 COC Records/Custody Protocols 4
- 4.7 Field Custody Procedures 4

5.0 LABORATORY CUSTODY PROCEDURES 4

- 5.1 Sample Packaging, Handling, and Shipping 5
- 5.2 Sample Packaging 5
- 5.3 Shipping Containers 5
- 5.4 Marking and Labeling 6

6.0 CALIBRATION PROCEDURES 6

7.0 ANALYTICAL PROCEDURES 6

8.0 DATA VALIDATION, REPORTING AND ASSESSMENT 6

- 8.1 Data Validation 6
- 8.2 Data Reporting 7
- 8.3 Data Assessment 7

9.0 INTERNAL QUALITY CONTROL CHECKS 8

- 9.1 QA/QC Sampling 8
- 9.2 Performance and System Audits 9
- 9.3 Project Analytical QA Preventative Maintenance 9
- 9.4 Corrective Action 9
- 9.5 QA/QC Reports 9

TABLES

Table 1. Analytical Methods and Detection Limits

Table 2. Data Quality Objectives and Corrective Actions

ATTACHMENTS

Attachment A. Sample Chain of Custody

REMEDIAL INVESTIGATION QUALITY ASSURANCE PROJECT PLAN

1.0 PROJECT OBJECTIVES

The following sections document standard practices for project Quality Assurance. Protocols, practices and procedures described here may be above the level of detail required for the scope of the former Standard Oil Bulk Terminal RI Work Plan. The Data Quality Objective (DQO) is to produce data of known and documented quality. Data generated during the RI will be used to:

- Further characterize the site;
- Determine the nature and extent of the petroleum hydrocarbon-related contamination;
- Collect sufficient data to provide a detailed understanding of site conditions; and
- Acquire sufficient site-specific data to allow for the completion of a Feasibility Study (FS) in compliance with the requirements of WAC 173-340-350.

Laboratory analytical testing for soil and groundwater are detailed in the RI Work Plan.

This Quality Assurance Project Plan (QAPP) has been produced by Science Applications International Corporation. (SAIC) on behalf of Chevron Environmental Management Company (Chevron) and is being submitted to the Washington State Department of Ecology (WDOE) in partial fulfillment of the requirements set forth in Agreed Order No. DE 7111.

2.0 PROJECT-SPECIFIC QUALITY ASSURANCE OBJECTIVES

2.1 ACCURACY

Accuracy is a measure of the closeness of an individual measurement or an average of a number of measurements to the true value. Accuracy is calculated in terms of percent recovery (%R) of a known value. The "known" can take the form of USEPA or National Institute of Standards and Technology-traceable standards, laboratory-prepared solutions of target analytes or solutions of surrogate compounds spiked into each sample.

2.2 PRECISION

Precision is the agreement between a set of replicate measurements without assumption of knowledge of the true value. It is a measure of the variability in repeated measurements of the sample compared to the average value. The precision assessment should represent the variability of sampling, sample handling, preservation, storage, and analysis of the sample data. Precision is reported as relative percent difference (RPD), the difference divided by the average of two positive sample results.

The overall precision is a mixture of sampling and laboratory variability. Laboratory and field duplicates analyses are used to determine precision. Laboratory duplicate RPDs provide a measurement of analytical precision and field duplicates RPDs provide a measure of overall precision.

2.3 COMPLETENESS

Completeness is the measure of how the amount of usable (valid) data obtained from a measurement system compares to the expected amount. Completeness is calculated after all

analytical data have been reviewed for usability and is expressed as a decimal or percent usable data.

2.4 REPRESENTATIVENESS

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of population, parameter variations at a sampling point, a process condition, or an environmental condition.

Representativeness of the data is addressed qualitatively in the RI Work Plan to assure that rationale of sampling locations is adequate to account for all site variations and the sampling and analytical techniques.

2.5 COMPARABILITY

Comparability expresses the confidence with which one data set can be compared to another data set. All data in the RI should be internally directly comparable. Whenever possible, data produced during the RI should be comparable to other data produced from other similar site investigations using similar techniques and analytical procedures.

3.0 SAMPLING PROCEDURES- DATA QUALITY ASSURANCE

The following quality assurance and quality control procedures will be utilized during this investigation to ensure accurate and reproducible data reflective of actual subsurface conditions.

3.1 MONITORING EQUIPMENT CALIBRATION

The portable photo-ionization detector (PID) used for screening soil vapor headspace will be calibrated at the beginning of each day according to the manufacturer's recommended procedure using a laboratory-certified isobutylene gas standard. The PID may also be calibrated during the course of the day.

3.2 DECONTAMINATION PROCEDURES

Equipment that is not directly used for sampling (i.e. drilling steel) will be cleaned between each sampling location using a high-pressure water wash. Soil sampling equipment (e.g. hand augers, spoons and scoops) will be cleaned by washing with non-phosphate detergent (e.g. Alconox, Liquinox) and water, rinsing with clean tap water, and rinsing with de-ionized or distilled water. Water level indicators will be washed with detergent and water and then rinsed with tap water and distilled water before use, between each sampling or measurement location and prior to storage.

Disposable nitrile gloves, bailers, sampling pump tubing, peristaltic pump tubing and any other form of disposable sampling equipment will be discarded after use at each sampling location.

3.3 STORAGE AND DISPOSAL OF RESIDUALS

Residual soil from this investigation will be contained in 55-gallon DOT approved drums, which will remain on-site for temporary storage while awaiting laboratory results. All decontamination and purge water will be stored in 55-gallon DOT approved waste drums. Following receipt of laboratory analytical data, transportation of all sampling residuals for eventual treatment and disposal will be arranged.

3.4 SAMPLE STORAGE, PACKING, AND SHIPMENT

All soil and groundwater samples will be stored in an ice chest while at the site and during transportation to the laboratory. Samples will be sub-packed by sample location in new Ziploc plastic bags and stored in the dark at approximately 4°C.

4.0 FIELD PROCEDURES

4.1 SAMPLE COLLECTION

The specific methods for sample container size and type, sample preservation requirements and holding times are determined by the contact laboratory chosen for the project. The laboratory will provide the sample containers. The Consultant will verify that the laboratory has supplied the proper containers and that they are pre-cleaned and shipped in sealed boxes.

All samples (with the exception of trip blanks) will be prepared and sealed in the field. Sample collection procedures, locations and protocols will be documented in a bound field notebook.

4.2 CHAIN OF CUSTODY PROCEDURES

This section describes sample identification and chain-of-custody (COC) protocols for this project. The purpose of these protocols is to insure that quality and validity of the samples are maintained through collection, transport, storage and analysis. All sample control and COC protocols will follow USEPA guidance.

4.3 SAMPLE IDENTIFIERS

Sample identifiers will be assigned by the sampling team as described in the site-specific SAP. The unique sample identifier will be clearly written on the sample label affixed to each sample container.

4.4 SAMPLE LABELS

Sample labels will be affixed to each sample container in such a way so as to not obscure any QA/QC lot numbers on the containers. Sample information will be printed clearly on each label. Field identification will be sufficient to enable cross-reference with the project field book.

Sample labels will contain the following information:

- Sample Number,
- Sample Location Number,
- Site Identifier,
- Initials of Samplers, and
- Date and Time of Collection.

For COC purposes, all QA/QC samples will be subject to the exact same custodial procedures and documentation as site samples.

4.5 CUSTODY SEALS

Custody seals will be used on all coolers and sample shipping containers. The number of seals per container is dependent upon the nature of each container. Seals will be signed and dated

prior to use. Clear strapping tape will be placed over each seal to ensure that seals are not accidentally broken during shipment.

4.6 COC RECORDS/CUSTODY PROTOCOLS

The COC will be fully completed in the field and signed by the sample collector. The samples will be entered onto the COC as they are collected. A sample COC is attached as Attachment A.

The primary objective of COC protocol is to provide an accurate written record that can trace the possession and handling of a sample from collection to the completion of all required analyses. A sample is in custody if it is in someone's possession, in someone's view, locked up or kept in a secured area that is restricted to authorized personnel only.

4.7 FIELD CUSTODY PROCEDURES

The following guidance will be used to ensure proper control of samples while in the field:

- As few persons as possible will handle samples.
- Coolers or boxes containing cleaned bottles will be sealed with a custody tape seal during transport to the field or while in storage prior to use. Sample bottles from unsealed coolers or boxes, or bottles that appear to have been tampered with will not be used.
- The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under COC rules.
- The sample collector will record sample data in the field logbook.
- The site team leader will determine whether proper custody procedures were followed during the fieldwork and decide if additional samples are required.

When transferring custody (i.e., releasing samples to a shipping agent), the following will apply:

- The coolers in which the samples are packed will be sealed and accompanied by COC records. When transferring samples, the individuals relinquishing and receiving them must sign, date and note the time on the COC record. This record documents sample custody transfer.
- Samples will be dispatched to the laboratory for analysis with separate COC records accompanying each shipment. Shipping containers will be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier and other pertinent information will be entered in the COC record.
- All shipments will be accompanied by COC records identifying their contents. The original record will accompany the shipment. The other copies will be distributed appropriately to the project manager.
- Sent by common carrier, a bill of lading will be used. Freight bills and bills of lading will be retained as part of the permanent documentation.

5.0 LABORATORY CUSTODY PROCEDURES

The laboratories receiving the samples will receive and document samples in accordance with their respective SOPs.

This section addresses procedures that will be used to identify samples and document the samples' COC. These procedures are necessary to ensure that the quality of the samples is maintained during their collection, transportation, storage and analysis. Procedures for custody, documentation, handling, packaging and shipping environmental samples are described below.

5.1 SAMPLE PACKAGING, HANDLING, AND SHIPPING

The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects to sample handlers due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling and shipping hazardous materials are promulgated by DOT in the Code of Federal Regulations, 49 CFR 171 through 177 and/or the International Air Transport Association regulations for Dangerous Goods.

5.2 SAMPLE PACKAGING

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample package requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- All sample bottles will be placed in a plastic bag to minimize leakage in the event a bottle breaks during shipment.
- The environmental samples will be cooled. Ice sealed in plastic bags or artificial icing materials may be used. Ice is not to be used as a substitute for packing materials.
- Approximately 2 inches of inert packing material, such as closed-cell foam or bubble wrap, should be placed in the bottom of all coolers. Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material, such as sawdust, newspaper, or sand be used.
- The custody record must be placed in a plastic bag and placed inside of the cooler lid. Signed and dated custody seals must be affixed to the sample cooler and must be covered with clear tape.
- Cooler lids must be secured with strapping tape at a minimum of two locations without covering any labels and the cooler drain must be taped shut.
- Completed shipping labels must be attached to the top of the cooler, with "This Side Up" labels.

5.3 SHIPPING CONTAINERS

Shipping containers are to be custody-sealed for shipment as appropriate. The container will be secured with clear tape wrapped around the package at least twice in at least two locations. Custody seals will be affixed in such a way that access to the container can be gained only by cutting the tape and breaking a seal.

- The custody seals will be covered with clear tape.
- Field personnel will make arrangements for transportation of samples to the laboratory. When custody is relinquished to a shipper, field personnel will telephone the laboratory sample custodian, to inform him/her of the expected time of arrival of the sample shipment and to advise him/her of any time constraints on sample analysis.

5.4 MARKING AND LABELING

The marking and labeling for shipping containers should follow the guidance presented below:

- Use abbreviations only where specified.
- The words "This End Up" or "This Side Up" must be clearly printed on the top of the outer package. Upward pointing arrows should be placed on the sides of the package.
- After a shipping container has been sealed, two COC seals are placed on the container, one on the front and one on the back. The seals are protected from accidental damage by placing clear tape over them.

6.0 CALIBRATION PROCEDURES

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations and SOPs, as well as criteria set forth in the applicable analytical methodology reference. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Documentation of all routine and special maintenance and calibration information will be maintained in an appropriate logbook or reference file.

7.0 ANALYTICAL PROCEDURES

The analytical methodologies to be used for generation of field analytical data (pH, temperature, conductivity, dissolved oxygen and static water level) are summarized in the Work Plan and the SAP. Field analytical data will be used to augment information generated through laboratory analysis and aid in delineating the groundwater impacts during field investigations. Equipment for monitoring groundwater conditions during well development and purging prior to sampling will meet the specifications of methods specified.

Lancaster Laboratories (Chevron contracted lab) will be responsible for custody procedures once samples are received at the laboratory.

Method-related QA/QC requirements are the responsibility of the project laboratory and should be performed in accordance with the method requirement. Table 1 provides the laboratory analytical methodologies to be used for completing the laboratory analytical tasks defined in the RI Work plan. Method-specific QC requirements are presented in Table 2.

8.0 DATA VALIDATION, REPORTING AND ASSESSMENT

8.1 DATA VALIDATION

All data generated from sampling will be reviewed by comparing calibration, accuracy, and precision to the QC criteria listed in the method description. The validation procedures are generally composed of, but not limited to, the following steps:

- Verifying the correct samples were analyzed and reported in appropriate units.
- Verifying preservation and holding times.
- Verifying that initial and continuing calibrations were performed and met QC criteria.
- Verifying that no analytes were present in the method blanks and that one blank was run every 10 samples.
- Verifying that a duplicate and matrix spike, or matrix spike/matrix spike duplicate (MS/MSD) were run every 20 samples and that QC criteria were met.

8.2 DATA REPORTING

All laboratory data calculations and reductions will be performed as described in the applicable method references. Raw data, including laboratory worksheets, notebooks, sample tracking records, instrument logs, standard and sample preparation logs, calibration data and associated QC records, should be retained by the laboratory for a minimum of 10 years and be available for inspection if necessary. While the laboratory data management system may store records electronically, provision should be made for hard copies as necessary to validate results.

Electronic laboratory data will be submitted to Ecology per Policy 840 and as dictated in Agreed Order No. 7111.

Deliverables by the contract laboratory shall be in standard data reporting format. The report shall include the following:

- Cover sheet listing the sample types received, tests performed, and a case narrative describing problems encountered and identifying any analyses not meeting QC criteria and general comments.
- Chain-of-custody forms and cooler receipt forms;
- Analytical data reported by sample or by test and containing pertinent information (i.e., field identification number, contract laboratory identification number, date of sample collection, receipt, extracted/digested/analyzed, batch number(s), dilution factors, all analytes and their reporting limits, data qualifiers, matrix units, percent of solids for soil samples, and sample description).
- Analytical information for QC sample spikes, laboratory duplicates, initial and continuing calibration verifications of standards and laboratory blanks, standard procedural blanks, LCS, surrogates, laboratory reference materials, ICP interference check samples, and detection limit check samples.
- Copies of any other forms pertinent to the data review process (corrective action forms, validation forms, raw data, etc.)
- The contract laboratory shall maintain on file all the supporting data and documentation for these samples.

8.3 DATA ASSESSMENT

The project data assessment procedures are generally composed of but not limited to the following steps:

- Review the COC and verify that all samples were received and analyzed.

- Review laboratory sample delivery group narrative for potential deficiencies in the data.
- Identify and organize the data according to laboratory data packages.
- Apply appropriate data qualifiers to the data.
- Verify the usability of the qualified data.

The Project Manager conducts a critical review of the comments provided in the summary report to determine if they are sufficient to describe and explain any associated problems with the data. If any data gaps are identified in the summary, the project manager resolves them using professional judgment based on the application of the EPA *Functional Guidelines for Data Validation* or EPA *Functional Guidelines for Inorganic Data Review*.

Data qualifiers will be assigned to the data as identified in the summary report. The data qualifiers or flags are assigned by the consultant in accordance with *EPA Functional Guidelines for Data Validation* or *EPA Functional Guidelines for Inorganic Data Review.*

9.0 INTERNAL QUALITY CONTROL CHECKS

9.1 QA/QC SAMPLING

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interference and/or contamination of sampling equipment glassware and reagents, etc. All field QC samples will be submitted as blind samples to the laboratory. Specific QC requirements for laboratory analyses will be the responsibility of the project laboratory. Field QC will include the following:

- **Trip Blanks** are blank samples prepared to assess ambient transport conditions. The contract laboratory will prepare them. The blanks will be handled like a sample and shipped to the laboratory for analyses. One trip blank will accompany each sample cooler containing water samples.
- **Equipment Rinsate Blanks** are blank samples designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use and that cleaning procedures between samples are sufficient to minimize cross contamination. Rinsate blanks will be collected at a rate of one blank per site, per sampling activity.
- **Field Duplicate** samples consist of a set of two samples collected independently of one another at the same sampling location during the same sampling event. Field duplicates are designed to assess actual field variability as compared to analytical duplicate or MSD analyses which measure laboratory variability. Duplicate samples will be collected at a rate of one for each 20 (soil and groundwater) samples.
- **MS/MSDs** are environmental samples that are spiked, in the laboratory, with a known concentration of a target analyte. The MS/MSDs are used to check sample matrix interferences and evaluate error due to laboratory bias and precision. Additional sample volume will be submitted for water samples. The project laboratory will perform MS/MSD analyses at a rate of one for each 20 samples of a particular matrix.

9.2 PERFORMANCE AND SYSTEM AUDITS

Performance and systems audits include careful evaluation of both field and laboratory QC. Performance and system audits are performed on a regularly scheduled basis during the lifetime of the project to assess the accuracy of the measurement systems.

Performance and system audits may be performed through split sampling in the field and/or by issuing the laboratory periodic blind samples. Audits of field activities can be carried out to evaluate sampling activities such as sample identification, sample control, COC procedures, field documentation and general sampling operations.

9.3 PROJECT ANALYTICAL QA PREVENTATIVE MAINTENANCE

All field instruments and equipment used for analysis will be serviced and maintained only by qualified personnel. All repairs, adjustments and calibrations will be documented in an appropriate logbook or data sheet that will be kept on file. The instrument maintenance logbooks will clearly document the date, a description of the problem, the corrective action taken, the result and who performed the work.

All equipment used in the field is subject to standard preventative maintenance schedules. When in use, equipment is inspected at least twice daily, once before start-up in the morning and again at the end of the work shift prior to overnight storage or return to the equipment supplier. Regular maintenance such as cleaning lenses, replacement of in-line filters and removal of accumulated dust is to be conducted according to manufacturer's recommendations and in-field need, whichever is appropriate. All preventive maintenance performed will be entered in the individual equipment's logbook and the field notebook.

In addition to preventive maintenance procedures, daily calibration checks will be performed at least once a day in the morning prior to use and recorded in the field notebook. Additional calibration checks will be performed as required. All field notebooks will become part of the permanent site file.

9.4 CORRECTIVE ACTION

Corrective actions are procedures that may be implemented on samples that do not meet QA specifications. The need for corrective action will be based on the limits of acceptability as specified in the appropriate sections of this QAPP. Corrective actions will depend on the problem(s) encountered and, in many cases, may have to be defined as the need arises. Persons responsible for initiating actions and procedures for identifying, documenting and reporting corrective actions include the project manager and QA officer.

9.5 QA/QC REPORTS

Serious analytical problems will be reported to Chevron and Ecology. The time and type of corrective action, if needed, will depend on the severity of the problem and relative overall project importance. Corrective actions may include altering procedures in the field, conducting an audit, or modifying laboratory protocol.

In addition to the performance and system audit reports provided to the project manager, the final RI/FS report will contain sections that summarize all relevant data quality information collected during the project.

Tables

TABLE 1
Analytical Methods and Detection Limits
Former Standard Oil Bulk Terminal No. 1001348
1656 East J Street, Washington

Analyte	Analytical Method	Soil (mg/kg)		Groundwater (µg/L)	
		Method A Cleanup Level [1]	Detection Limit	Method A Cleanup Level [1]	Detection Limit
TPH-Gx	NWTPH-Gx	30/100	1	800	50
TPH-Dx (dsl)	NWTPH-Dx with silica-gel cleanup	2,000	3	500	80
TPH-Dx (HO)	NWTPH-Dx with silica-gel cleanup	2,000	10	500	100
Benzene	8260	0.03	0.0005	5	0.5
Toluene	8260	7	0.001	1,000	0.5
Ethylbenzene	8260	6	0.001	700	0.5
Total Xylenes	8260	9	0.001	1,000	0.5
Lead	7000-series	250	0.08	15	1.2
EDB	8260	0.005	0.001	0.01	0.5
EDC	8260	NA	0.001	5	0.5
cPAHs	8270	0.1	0.1	0.1	0.02
Naphthalenes	8260	5	0.001	160	1
n-Hexane	8260	NA	0.001	NA	2

NOTES:
mg/kg = Milograms per Kilogram
µg/L = Micrograms per Liter
NA = Not Applicable

[1] = Model Toxics Control Act (MTCA) Method A Cleanup Level

TABLE 2

Data Quality Objectives and Corrective Actions

Former Standard Oil Bulk Terminal No. 1001348

1656 East J Street, Washington

Analytical Method	Laboratory QC Sample	Frequency	Acceptance Criteria	Corrective Action
Volatile Organic Compounds by 8260 (25-ml purge)	Method Blank	Every 20 samples or 12-hour sequence, whichever is more frequent.	Less than the LOQ or the associated samples must be greater than 10 times the blank concentration	Reanalyze and/or re-extract associated samples.
	Instrument Tuning using BFB	Every 12 hours	See ion abundance criteria listed in lab SOP.	Retune instrument and recheck.
	Initial Instrument Calibration	Six-point curve at initiation of analytical sequence and as needed.	RF for SPCCs >0.300 for chlorobenzene and 1,1,2,2-tetrachloroethane, and >0.100 for 1,1-dichloroethene and chloromethane %RSD CCCs <30% %RSD £ 15% to use average RF or 1st or 2nd degree curve fit with correlation coefficient (r) or coefficient of determination (r^2) ³ 0.990	Reanalyze associated samples.
	Continuing Calibration Check	CCVs every tune period prior to analysis of samples.	RF for SPCCs >0.300 for chlorobenzene and 1,1,2,2-tetrachloroethane, and >0.100 for 1,1-dichloroethene and chloromethane % drift for CCCs <20%	Reanalyze samples not associated with passing CCVs.
	Internal Standards	Every sample.	See lab SOPs for minimum area	Reanalyze samples
	Surrogates	Every sample.	See current lab control limits for %R.	Reanalyze samples. Consult with Chemistry QA Officer if criteria not met for re-analysis.
	Laboratory Control Samples (LCS)	Every 20 samples or extraction batch, whichever is more frequent.	See current lab control limits for %R.	Reanalyze associated samples. The data can be reported if the LCS recovery is high and the samples are “ND”.
	Matrix Spike and Matrix Spike Duplicate (MS/MSD)	Every 20 samples or extraction batch, whichever is more frequent.	See current lab control limits for %R; RPD £ 30% for soils, 30% for waters.	Consult with Chemistry QA Officer for corrective action. Evaluate in conjunction with the LCS.

TABLE 2

Data Quality Objectives and Corrective Actions

Former Standard Oil Bulk Terminal No. 1001348
1656 East J Street, Washington

Analytical Method	Laboratory QC Sample	Frequency	Acceptance Criteria	Corrective Action
Petroleum Hydrocarbons by: NWTPH-Gx and NWTPH-Dx	Method Blank	Every 20 samples or extraction batch, whichever is more frequent.	Less than the LOQ or the associated samples must be greater than 10 times the blank concentration	Reanalyze and/or re-extract associated samples.
	Initial Instrument Calibration	Five-point curve at initiation of analytical sequence and as needed.	%RSD 20% for all analytes or the correlation coefficient (r) 0.995 for each analyte.	Reanalyze associated samples.
	Continuing Calibration Check	CCVs must bracket 10 samples or 12 hours.	%D between the true and the measured values 15%.	Reanalyze samples not bracketed by passing CCVs.
	Surrogates	Every sample.	See current lab control limits for %R.	Reanalyze samples. Re-extract if criteria not met. Consult with Chemistry QA Officer if criteria not met for re-extract.
	Laboratory Control Samples (LCS)	Every 20 samples or extraction batch, whichever is more frequent.	%R 50%-150% NWTPH – use lab control limits WA – 70-130%	Re-extract and reanalyze associated samples. The data can be reported if the LCS recovery is high and the samples are "ND".
	Matrix Spike and Matrix Spike Duplicate (MS/MSD)	Every 20 samples or extraction batch, whichever is more frequent.	%R 50%-150%; RPD 35% for soils, 20% for waters. NWTPH – use lab control limits for recovery WA – 70-130% recovery NWTPH-Gx – 30% RPD NWTPH-Dx – 30% w, 50% s RPD	Consult with Chemistry QA Officer for corrective action. Evaluate in conjunction with the LCS.

TABLE 2

Data Quality Objectives and Corrective Actions

Former Standard Oil Bulk Terminal No. 1001348

1656 East J Street, Washington

Analytical Method	Laboratory QC Sample	Frequency	Acceptance Criteria	Corrective Action
Semivolatile Organic Compounds by 8270	Method Blank	Every 20 samples or extraction batch, whichever is more frequent.	Less than the LOQ or the associated samples must be greater than 10 times the blank concentration	Reanalyze and/or re-extract associated samples.
	Initial Instrument Calibration	Six point curve at initiation of analytical sequence and as needed.	%RSD CCCs £ 30%; non-CCCs £ 50% RF for all SPCCs ³ 0.05 %RSD £ 15% to use average RF or use 1st or 2nd degree curve fit with correlation coefficient (r) or coefficient of determination (r^2) ³ 0.990	Reanalyze associated samples.
	Continuing Calibration Check	CCVs every tune period (12 hrs) prior to analysis of samples.	%drift CCCs £ 20%; non-CCCs £ 50% RF for SPCCs ³ 0.05	Reanalyze samples not associated with passing CCVs.
	Surrogates	Every sample.	See current lab control limits for %R.	Reanalyze samples. Re-extract if criteria not met. Consult with Chemistry QA Officer if criteria not met for re-extract.
	Laboratory Control Samples (LCS)	Every 20 samples or extraction batch, whichever is more frequent.	See current lab control limits for %R	Re-extract and reanalyze associated samples. The data can be reported if the LCS recovery is high and the samples are "ND".
	Matrix Spike and Matrix Spike Duplicate (MS/MSD)	Every 20 samples or extraction batch, whichever is more frequent.	See current lab control limits for %R; RPD £ 30% for soils, 30% for waters.	Consult with Chemistry QA Officer for corrective action. Evaluate in conjunction with the LCS.

Attachment A:
Sample Chain of Custody

Chevron Northwest Region Analysis Request/Chain of Custody

223557

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: _____ Sample #: _____ SCR#: _____

WBS# NWRTB-1001348-LAB

Facility #: 1001348
Site Address: 1656 East J Street, Tacoma, WA
Chevron PM: Dan Carrier Lead Consultant: SAIC
Consultant/Office: Bothell, WA
Consultant Prj. Mgr.: Don Wyll
Consultant Phone #: 425-482-3315 Fax #: 425-485-5566
Sampler: R. Ottman
Service Order #: _____ ☐ Non SAR: _____

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	Analyses Requested / Preservation Codes: BTEX + MTBE ☐ 8021 ☐ 8260 ☐ Naphth	8260 full scan	Oxygenates	NW TPH G	NW TPH D (☒ Extended Rng. ☒ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method ____	VPH/EPH	NWTPH H HCID ☐ quantification	EDB, EDC (8260)
MW-18-052610	5/26/10	0815	/			/		7	X			X	X				X
MW-19-052610	5/26/10	1000	/			/		5	X			X	X				
TB-1-052610	5/26/10	1150	/			/		2	X			X					

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy s on highest hit
☐ Run ____ oxy s on all hits

Comments / Remarks

Please email analytical results to Ruth Ottman ottmanr@saic.com

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

Relinquished by:	Date	Time	Received by:	Date	Time
Ruth Ottman	5/26/10	1600			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx Other _____			Received by:	Date	Time
Temperature Upon Receipt _____ C°			Custody Seals Intact? Yes No		

2010 Sampling and Analysis Plan

REMEDIAL INVESTIGATION
SAMPLING AND ANALYSIS PLAN

Former Standard Oil Bulk Terminal
Facility No. 1001348
1656 East J Street
Tacoma, Washington

May 25, 2010

Prepared for:
Washington State Department of Ecology
Southwest Regional Office
Olympia, Washington

Prepared by:
Science Applications International Corporation
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

On Behalf of:
Chevron Environmental Management Company
145 S. State College Blvd.
Brea, California 92821

SAIC
From Science to Solutions

TABLE OF CONTENTS

1.0 INTRODUCTION....1
2.0 PROGRAM OBJECTIVE....1
3.0 SAMPLE DESIGNATION....1
3.1 Soil Sample Designation....1
3.2 Groundwater Sample Designation....2
4.0 STANDARD OPERATING PROCEDURES AND FIELD INVESTIGATIVE PROGRAM ELEMENTS....2
4.1 Soil Sampling....2
4.1.1 Sample Frequency....3
4.1.2 Field Screening....3
4.1.3 Soil Chemical Analyses....3
4.2 Decontamination of Equipment....4
4.2.1 Equipment and Materials....4
4.2.2 Procedure....4
4.2.2.1 Exploration and Construction Equipment....4
4.2.2.2 Sampling Equipment....5
4.2.2.3 Sample Containers....5
4.3 Monitoring Well Design, Installation and Construction....5
4.4 Development of Groundwater Monitoring Wells....5
4.4.1 Equipment and Materials....5
4.4.2 Well Development Procedures....6
4.5 Groundwater Sampling....6
4.5.1 Equipment and Materials....6
4.5.2 Groundwater Sampling Procedures....7
4.6 Groundwater Elevation Monitoring....8
4.6.1 Electric Water Level Meter....9
5.0 HANDLING AND SHIPPING OF ENVIRONMENTAL SAMPLES....9
5.1 Procedures....9
5.2 Sample Container Preparation....10
5.3 Procedures to Prevent Cross-Contamination....10
5.4 Sample Identification and Labeling....10
5.5 Field Notebook....10
5.6 Sample Chain-of-Custody Record Form....11

TABLES

Table 1. Chemical Analyses to be Performed
Table 2. Containers, Preservatives and Holding Times

REMEDIAL INVESTIGATION SAMPLING AND ANALYSIS PLAN

1.0 INTRODUCTION

The Sampling and Analysis Plan (SAP) for the former Standard Oil Bulk Terminal Remedial Investigation Work Plan describes specific activities, methods and procedures that will be used during data collection activities associated with the Remedial Investigation Work Plan. The SAP was developed in conjunction with the Remedial Investigation Work Plan and associated Quality Assurance Project Plan (QAPP).

Standard operating procedures in this document govern all aspects of field measurement, testing, sample collection, and documentation efforts to ensure that samples collected are representative of conditions in the field, measurements and observations are clearly and concisely documented, and the information obtained is valid.

The scope of work for the Remedial Investigation Work Plan encompasses sample collection and analysis, and data evaluation. The rationale for the remedial investigation is discussed in the Remedial Investigation Work Plan.

2.0 PROGRAM OBJECTIVE

The objectives of the SAP are to collect sufficient and valid analytical data to determine compliance with the Remedial Investigation Work Plan. Data quality objectives for various environmental matrices are summarized in the QAPP. This summary includes descriptions of the overall DQOs, prioritized data uses, appropriate analytical levels, contaminants of concern, analytical program, and critical samples.

3.0 SAMPLE DESIGNATION

The following section describes designations assigned to each individual component of the Remedial Investigation Work Plan. The sample designation protocols will be adhered to during the sample collection procedures to maintain sample data integrity. The sample number will include the sample location and investigative method. Specific sample information such as location number and depth will be maintained in the field logs.

3.1 SOIL SAMPLE DESIGNATION

Subsurface soil boring samples will be designated with the number corresponding to the boring and the depth at which the sample was collected. Sample names will follow the format:

- SB-1-10.0

QA/QC samples such as method blanks, trip blanks, field blanks, and duplicate samples collected during the Remedial Investigation will be labeled with unique sample identifiers and the date at which the sample was collected. A record of the QA/QC samples collected will be kept in the field notebook along with the chain of custody (COC). The following format will be followed for QA/QC samples.

Equipment Rinsate Blanks

- ER–1-070710

SAIC From Science to Solutions

Trip Blanks

- TB–1-070710

Duplicate Samples

- DUP-1-070710

3.2 GROUNDWATER SAMPLE DESIGNATION

Groundwater samples collected from proposed or existing monitoring wells will be labeled according to the monitoring well ID and the date of collection. The date and time of collection will be recorded in the field logbook and on the COC.

- Example: a groundwater sample from monitoring well MW-14 collected on July 7, 2010, will be labeled MW-14-070710.

QA/QC samples collected during groundwater sampling will be labeled in the same manner as QA/QC samples for soil.

4.0 STANDARD OPERATING PROCEDURES AND FIELD INVESTIGATIVE PROGRAM ELEMENTS

This section provides standard operating procedures (SOPs) for tasks to be performed during the Remedial Investigation. SOPs are provided for the following program elements:

- Soil Sampling;
- Decontamination of Equipment;
- Monitoring Well Design, Installation and Construction;
- Development of Groundwater Monitoring Wells;
- Groundwater Sampling; and
- Groundwater Elevation Monitoring.

The rationale for use of each procedure is presented in the Remedial Investigation Work Plan.

4.1 SOIL SAMPLING

Appropriate soil sampling procedures will be followed at all times to ensure that representative soil samples are provided for analysis and that the act of sampling does not contribute to further contamination by cross-contamination at a particular site. Care will be taken to quickly collect and preserve soil samples in order to minimize the potential loss of volatile organic compounds. All techniques will be thoroughly documented to ensure future re-creation. The location of each sample will be mapped using a measuring tape or wheel and referenced to a local permanent feature where possible.

In order to avoid possible damage to undetected underground utilities, soil borings will be advanced for the first eight feet with a stainless steel hand-auger and/or air knife. From ground surface to eight feet below ground surface all soil samples will be collected in advance of the air knife by a stainless steel hand-auger and immediately handled to minimize loss of volatiles.

4.1.1 Sample Frequency

The number and depth of samples collected from each boring for chemical analysis will be field determined, but at a minimum, one sample from the capillary fringe of the water table will be collected. In addition, other soil layers exhibiting a sheen or high field screening results will also be collected for analysis.

The samples will be examined and the following items will be noted in the field logbook:

- Color,
- Moisture content (dry, damp, moist, or wet),
- Lithology (using the Unified Soil Classification system [USCS], or equivalent),
- Geological interpretation, if possible (e.g., fill, topsoil, alluvium, till, etc.),
- Presence of sheen or NAPL,
- Other indications of contamination (e.g., discoloration), and
- Field screening results (see below).

4.1.2 Field Screening

4.1.2.1.1 Headspace Vapor

Each sample will be field screened to obtain a relative estimate of its volatile organic carbon (VOC) concentration. This field screening will be performed by measuring the concentration of VOCs in the headspace above the sample in a closed container using a field flame-ionization detector (FID) or photoionization detector (PID). The field screening will be performed by placing the soil into a sealed plastic bag (e.g. Ziploc), disaggregating the soil by hand, allowing the sample to equilibrate for at least five minutes, and then opening the bag slightly, inserting the instrument probe, and measuring the VOC concentration in the headspace. If the ambient temperature is below 65ºF, the sample will be warmed (e.g., in a heated vehicle) before the headspace measurement is made.

4.1.2.1.2 Sheen Testing

Sheen testing will be conducted by placing soil in a pan of water and observing the water surface for signs of sheen. Sheens are classified as follows:

• ***Slight Sheen***: Light, colorless, dull sheen. The spread is irregular and dissipates rapidly;

• ***Moderate Sheen***: Light to heavy sheen, may show color/iridescence. The spread is irregular to flowing. Few remaining areas of no sheen are evident on the water surface;

• ***Heavy Sheen***: Heavy sheen with color/iridescence. The spread is rapid and the entire water surface may be covered with sheen.

4.1.3 Soil Chemical Analyses

Samples will be sent to Lancaster Laboratories in Lancaster, Pennsylvania. All soil samples collected on the former bulk terminal property will be analyzed for gasoline-, diesel- and oil-

range hydrocarbons and BTEX. In addition, the soil samples that are judged to be among the most highly impacted based on field observations and field screening results, will also be analyzed for EDB, EDC, cPAHs, VPH/EPH, n-hexane, and naphthalenes. Table 1 lists the chemical analyses planned for the samples.

4.2 DECONTAMINATION OF EQUIPMENT

Field equipment used during drilling soil borings and sampling will be decontaminated prior to use and during sampling to reduce the potential for the introduction of contamination and cross-contamination in accordance with the guidelines and procedures set forth in this document. These procedures are necessary to ensure quality control in decontamination of field equipment and to serve as a means to identify and correct potential errors in sample collection and sample handling procedures.

4.2.1 Equipment and Materials

Equipment and materials that will be used to decontaminate sampling equipment are listed below.

- Distilled Bottled Water
- 5-gallon buckets
- Scrub brush and long handled bottle brush
- Trash receptacle
- Aluminum foil
- Plastic sheeting
- Liquinox (or equivalent)

4.2.2 Procedure

Decontamination of all non-disposable field sampling equipment, field instruments and sample containers will be conducted in a thorough and step-wise manner as described below. New, disposable Nitrile gloves will be worn when handling clean sampling equipment and monitoring well construction materials to ensure that the equipment is not cross-contaminated. Decontamination procedures shall be documented in the field notebook.

4.2.2.1 Exploration and Construction Equipment

Prior to use, between locations, upon arriving at the site and when leaving the site; augers, well screens, casings and other non-sampling equipment shall be certified clean or decontaminated in accordance with the following procedures:

- Move equipment to designated decontamination area;
- Clean thoroughly (inside and outside) with a high-pressure steam cleaning unit (water at 1,500 psi);
- Allow to air dry; and
- Store in a clean area on plastic sheeting.

4.2.2.2 Sampling Equipment

All non-disposable sampling equipment used for soil and water sampling will be decontaminated between each sample. The decontamination procedure is provided as follows:

- Rinse thoroughly with potable water;
- Scrub with Liquinox and water to remove any visible dirt;
- Rinse thoroughly with potable water; and
- Rinse with distilled water.

Sampling equipment shall be stored in the same manner as non-sampling equipment described above.

4.2.2.3 Sample Containers

Sample containers will be laboratory cleaned and will be supplied by the analytical lab performing the analytical analyses. Table 2 lists the containers and preservatives needed for each sample.

The decontamination fluids generated during decontamination procedures will be treated as though they are contaminated and will be contained in 55-gallon drums, marked and secured until a proper disposal method is developed and implemented based on analytical test results.

4.3 MONITORING WELL DESIGN, INSTALLATION AND CONSTRUCTION

Monitoring wells will be constructed at the locations to be determined in the Remedial Investigation Work Plan. Groundwater monitoring wells will likely be constructed using 4-inch diameter Schedule 40 PVC casing and screen. Based upon previous work at the site, the screen interval will consist of 10 feet of machine-slotted PVC with a slot size of 0.010. The actual depth of the screen interval will be based upon site conditions observed during drilling.

The annular space around the slotted well screen will be filled with #2/12 silica sand that extends a minimum of 2 feet above the top of the well screen. One to two feet of hydrated bentonite chips will be placed above the sand as an annular sealant. Each well will be secured using lockable locking caps and protected using traffic-rated, flush mount utility boxes.

4.4 DEVELOPMENT OF GROUNDWATER MONITORING WELLS

After completion of the installation of the groundwater monitoring wells, each well will be developed by surging and pumping. The purpose of the development activities is to set the sand pack and to remove fine-grained material from the sand pack and casing. This is done to enable the collection of groundwater samples with a low turbidity**.** Wells will not be developed until at least 24 hours after being installed in order to allow the surface seal to adequately cure. If NAPL are observed in any new wells, the NAPL will be removed prior to development. The well will be allowed to stabilize after development for at least two days before being sampled.

4.4.1 Equipment and Materials

Calculator Plastic sheeting

Calibrated 5-gal bucket	Sample containers
Chain-of-custody forms	Sample labels
Coolers	Sample custody
Distilled Water	Shipping containers
Multi- parameter meter (YSI)	Water level meter
Field Notebook	Ziploc bags
Field sampling report forms	Garbage bags
Ice packs (i.e., blue ice or ice)	Nylon rope
Disposable Gloves	Disposable bailers
Peristaltic pump and tubing	Field-filtering equipment
Surge block	

4.4.2 Well Development Procedures

Record the date and time of arrival, general site conditions and other applicable field observations related to the site.

Verify the locations and conditions of the wells. The least contaminated wells (if known) and background wells should be developed first to minimize the potential for cross contamination.

Check the monitoring instruments by performing one calibration check. Record the results in the field logbook.

Inspect the well to determine the condition of the surface casings, surface seal and well identification.

A water level indicator (electronic) will be used to measure depth to water in the well. The total depth of each well will be measured. The measurement will be used to calculate the thickness of the water column (height of standing water in the well). Compare well depth to completion data and report significant differences that may indicate silt buildup in the well.

Each monitoring well will be surged and pumped to remove the fine-grained material. Surging and pumping will continue until a noticeable decrease in suspended solids is observed.

4.5 GROUNDWATER SAMPLING

Proper sampling protocol must be followed to ensure that representative samples of groundwater are provided for analysis and that the act of sampling does not contribute to further impact at the site or cross-contamination of samples. Techniques employed shall be thoroughly documented.

4.5.1 Equipment and Materials

Calculator	Plastic sheeting
Calibrated 5-gal bucket	Sample containers
Chain-of-custody forms	Sample labels
Coolers	Sample custody

Distilled Water	Shipping containers
Multi- parameter meter (YSI)	Water level meter
Field Notebook	Ziploc bags
Field sampling report forms	Garbage bags
Ice packs (i.e., blue ice or ice)	Nylon rope
Disposable Gloves	Disposable bailers
Peristaltic pump and tubing	Field-filtering equipment
Laboratory supplied sample bottles	Sample labels

4.5.2 Groundwater Sampling Procedures

Groundwater samples will be collected from on-site monitoring wells for laboratory analysis as described in the Remedial Investigation Work Plan. Groundwater samples will be collected from each of the existing and newly installed wells using low-flow sampling protocol. The following methods and procedures will be employed during groundwater sampling.

Prior to arriving at the well, all monitoring equipment (including health and safety instrumentation, temperature, pH, DO and conductivity meters) will be calibrated. Instrument calibration information, field observations, notes and measurements will be recorded daily in waterproof ink by field personnel in bound all-weather field notebooks. Each field notebook will be signed and dated. Upon arrival at the well, the following procedures will be observed:

1) Record the date and time of arrival, general site conditions and other applicable field observations related to the site.
2) Verify the locations and conditions of the wells. The least contaminated wells (if known) and background wells should be sampled first to minimize the potential for cross contamination.
3) Check the monitoring instruments by performing one calibration check. Record the results in the field logbook.
4) Inspect the well to determine the condition of the surface casings, surface seal and well identification.
5) Attach a fresh piece of disposable polyethylene (or equivalent) tubing to outlet of decontaminated pump or peristaltic pump. Lower pump slowly into well to minimize mixing of casing water and suspension of any silt at bottom of well. Place pump near the middle or slightly above the middle of the submerged screened interval. Purge at 100 to 500 ml/min; the goal is to minimize drawdown in the well (ideally less than 10% drawdown).
6) Monitor depth to water (DTW), purge-water temperature, pH, specific conductance, dissolved oxygen, oxidation-reduction (redox) potential, and turbidity using an in-line flow cell. Take readings every 3 to 5 minutes.
7) Stop purging when the following parameters have stabilized as defined below for three successive readings:

   Temperature: $\pm$ 1 ^{o}C;

pH: ± 0.1 units;

Specific conductance: ± 10 percent; and

Dissolved oxygen or turbidity: ± 10 percent.

8) After well-purging criteria are satisfied, disconnect the in-line flow cell and collect samples (VOCs first, followed by TPH, SVOCs, and metals/inorganics samples as applicable).

9) If using a non-dedicated pump, remove pump from well, discard disposable tubing, and decontaminate pump per protocols.

10) Following sample collection, each sample container will be labeled according to the well location, date, time of collection and analysis request. Record the date, time and sample appearance in the field log notebook.

11) All sampling information will be recorded in the field log notebooks.

12) At a minimum, QA/QC samples will be collected from approximately 5 percent of the wells. One field duplicate will be collected for every 20 environmental samples collected.

13) Follow sample handling and shipping procedures.

To minimize delays in field parameter stabilization and potential bias in analytical testing results, any vents or other potential sources of air bubbles in the pump discharge tubing or in-line flow cell should be identified and sealed off (or otherwise isolated) prior to purging or as soon as possible after purging begins.

If well yield is so low that continuous flow is lost during well purging even at the minimum sustainable purge rate, turn the pump off and allow the well to recover as much as possible (but not longer than 24 hours). If only unfiltered samples will be collected for metals/inorganics, allow the well to recover overnight. Do not attempt to maximize purge volume by lowering the pump to the bottom of the well. After the water level in the well has recovered, collect the required samples with the pump placed near the middle of the screened interval. If using a non-dedicated pump, be sure to minimize disturbance of the water column by lowering the pump slowly into the well.

4.6 GROUNDWATER ELEVATION MONITORING

Accurate groundwater monitoring data is essential to development of a thorough understanding of groundwater flow dynamics and is an integral part of the site hydrogeologic investigation. The evaluation of groundwater movement within and between water-bearing zones requires frequent measurement of groundwater elevations over a period of time to determine whether temporal fluctuations in groundwater elevations and/or flow patterns exist.

The necessary frequency for measuring groundwater elevations depends on factors such as: 1) the goals of the investigation; 2) Site specific conditions; 3) the frequency of groundwater sampling (as water levels are always taken during sampling events) and/or 4) State or Federal regulations and requirements. Several different methods to conduct groundwater elevation monitoring are available. However, the level of accuracy is dependent upon the equipment used as well as accurate measurement and recording of data. Available methods include the use of battery operated electric water level meters and more sophisticated digital-analog, computerized,

continuous-recording systems (pressure transducers). All instruments used in the field will be thoroughly decontaminated prior to well entry.

4.6.1 Electric Water Level Meter

Battery operated electric water level meters will be used to obtain water level measurements at this site. The device consists of an electrode suspended by a pair of insulated Teflon coated wires. An indicator light or sounding device is used to indicate when the electrode has contacted the water surface.

Procedures for use of the electric water level meter method of measuring groundwater levels are as follows:

1) Check battery, to ensure that the unit is operational.
2) Lower the probe into the well until the indicator light illuminates or the buzzer sounds (depending upon the design of the model in use).
3) Verify that the electrode is functioning properly by slowly moving the probe up and down within the well.
4) Measure the reading from the tape relative to a previously surveyed mark on the well casing (PVC) to the nearest 0.01 foot.
5) Document the depth of water in the field notebook.
6) Decontaminate the water level indicator tape and probe in accordance with procedures set forth in Section 4.2.
7) Document complete set of water level measurements obtained in the field notebook.

5.0 HANDLING AND SHIPPING OF ENVIRONMENTAL SAMPLES

Numerous samples from various environmental media shall be collected at the site. It is imperative that proper sample identification handling, storage and shipping procedures be followed to ensure that samples can be properly tracked and that data obtained is of known quality. Procedures for decontamination of sampling equipment are provided. This section specifies general methods for handling storage and shipping of samples collected during the Remedial Investigation**.**

5.1 PROCEDURES

Sampling personnel will be equipped with a bound field notebook during performance of Remedial Investigation field activities. All data regarding sample collection will be recorded in this field notebook.

The chain-of-custody (COC) program will be adequate to allow for the tracing, possession and handling of individual samples from the time of field collection through laboratory analysis. The COC form will be used by personnel responsible for ensuring the integrity of the samples and will be maintained in the project files as documentation of sample handling procedures.

5.2 SAMPLE CONTAINER PREPARATION

All containers used in the sampling of soils and groundwater shall be laboratory cleaned as specified in of the QAPP. The container type and preservative requirements shall follow the specifications of the QAPP.

5.3 PROCEDURES TO PREVENT CROSS-CONTAMINATION

Personnel collecting soil and groundwater samples will take the following precautions to minimize sample contamination or cross-contamination between samples:

- New nitrile gloves will be used while taking all samples and disposed of after equipment have been decontaminated.
- Sampling personnel will not touch the inside of the sampling container.
- Only equipment that has been properly decontaminated according to the procedures specified (Decontamination of Equipment) will be used for environmental sample collection.

Immediately following the collection of the sample, the container will be sealed and the sample will be labeled and entered in the field notebook. At this time, the COC Form will be completed to note the acquisition of the sample.

The sample will then be placed in a pre-cooled ice chest container and preserved (if necessary) according to the directions of the QAPP.

5.4 SAMPLE IDENTIFICATION AND LABELING

Each sample shall be identified in the logbook and on the sample container label. The label shall be filled out as follows:

- Sampler's initials
- Client ID
- Date – date of sample collection
- Time – time of sample collection
- Source – sample number and matrix (i.e., soil, water)

5.5 FIELD NOTEBOOK

A bound field notebook will be maintained by the sampler to provide a daily record of events. At the beginning of each entry, the following will be recorded:

- Date
- Time
- Meteorological conditions
- Field personnel present
- Level of personal protection

- List of on-site visitors and the level of personal protection
- Initials of the person making the entry

Field notebook entries will be in as much detail as necessary so that essential information is properly documented. All documentation in field notebooks will be in ink. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. No entries will be obliterated or rendered unreadable.

If sample locations cannot be indicated on field maps, a sample drawing of the location (not to scale) will be included in the notebook to provide an illustration of all sampling points.

The cover of each notebook used will contain:

- Person and organization to whom the book is assigned
- Book number
- Start date
- End date

Entered in the notebook will include at a minimum the following for each sample date:

- Site identification
- Location of sampling points
- Description of sampling points
- References to photographs (if applicable) and brief sketch of sampling points
- Sample identification number
- Number of samples taken
- Time of sample collection
- Reference to sample location map
- Number of QA/QC samples taken and their labeled identifier
- Collector's name
- Field observations
- Sample distribution (i.e., split samples, analytical lab)
- All field measurements made (e.g., PID readings, etc.)

Daily activities shall be summarized in the field notebook.

5.6 SAMPLE CHAIN-OF-CUSTODY RECORD FORM

The primary objective of chain of custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from

collection to completion of all required analysis. Details of the chain of custody procedures are outlined in the QAPP.

Tables

TABLE 1

Chemical Analyses to be Performed

Former Standard Oil Bulk Terminal No. 1001348
1656 East J Street, Tacoma, Washington

Analyte	Soil Samples		Groundwater Samples
	All Samples	Select Samples[a]	Monitoring Well[b]
TPH-Gx	●	●	●
TPH-Dx	●	●	●
BTEX	●	●	●
Lead		●	●
EDB		●	●
EDC		●	●
cPAHs		●	●
Naphthalenes		●	●
n-Hexane		●	●

[a] Select soil samples will be analyzed for these additional analytes. These samples are intended to represent the most contaminated soils in the main potential source area (e.g., tank farm, product supply pipes, etc). Samples will be selected based on field screening with PID/FID and on field observations of sheen, color, odor, etc.

[b] These analyses will be performed during the initial round of monitoring well sampling. The analyte list for subsequent rounds may be adjusted based on the results from the initial round.

TABLE 2

Containers, Preservatives and Holding Times

Former Standard Oil Bulk Terminal No. 1001348

1656 East J Street, Tacoma, Washington

Analysis	Container/Preservative		Holding time (days)
	Soil	Groundwater	
TPH-Gx	1 - 40 ml VOA/MeOH, 4°C	3 - 40 ml VOAs, no headspace/HCl, pH<2, 4°C	14
TPH-Dx	1 - 125 ml wide mouth glass/4°C	2 - 1 L amber/HCL, pH<2, 4°C	14
BTEX, EDB, EDC **Naphthalene** **n-Hexane**	1 - 40 ml VOA/MeOH, 4°C 2 - 40 ml VOAs/NaHSO4, 4°C	3 - 40 ml VOAs/HCl, pH<2, 4°C	14
Lead	2 oz glass/4°C	1 - 1 L poly/HNO_3, pH <2, 4°C	14
cPAHs	4 oz glass, no headspace/4°C	2 - 1 L amber/Na_2S2O_3, 4°C	7, 40

Appendix F

2023 Data Validation Reports

First Quarter 2023

AECOM
1111 3rd Ave
Suite 1600
Seattle, WA 98101
www.aecom.com

206 438 2700 tel
866 495 5288 fax

To	Shira DeGrood, Project Manager	Info	FINAL
Subject	Summary Data Quality Review Chevron Environmental Management Company (CEMC) Legacy Sites – Tacoma Terminal 2023 1st Quarter Groundwater Sampling		
From	Christina Wheeler, Chemist Jennifer B. Garner, Chemist		
Date	May 17, 2023		

The summary data quality review of 44 groundwater samples and 4 trip blanks collected between March 13 and March 21, 2023, has been completed. The samples were analyzed at Eurofins Lancaster Laboratories Environmental (ELLE) located in Lancaster, Pennsylvania, for selected volatile organic compounds (VOCs; benzene, ethylbenzene, toluene, methyl tertiary butyl ether [MTBE], and total xylenes) by EPA Method 8260D; total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology Methods NWTPH-Gx (gasoline-range TPH, carbon range C7-C12) and NWTPH-Dx (diesel-range and oil-range TPHs, carbon ranges C12-C24 and C24-C40, respectively). The laboratory provided summary reports containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. For this report, the sample identifications (IDs) do not include the sample matrix and date suffixes (W-230313, W-230314, etc.), unless required for clarity. The following samples are associated with ELLE laboratory groups 410-119221-1 and 410-119873-1:

Sample ID	Laboratory ID
MW-10-W-230313	410-119221-1
MW-11-W-230313	410-119221-2
MW-12-W-230314	410-119221-3
MW-14-W-230315	410-119221-4
MW-21-W-230313	410-119221-5
MW-22-W-230315	410-119221-6
MW-23-W-230314	410-119221-7
MW-24-W-230314	410-119221-8
MW-26-W-230314	410-119221-9
MW-30-W-230314	410-119221-10
MW-31-W-230315	410-119221-11
MW-36-W-230315	410-119221-12
MW-37-W-230315	410-119221-13
MW-38-W-230315	410-119221-14
MW-39-W-230316	410-119221-15
RMW-01-W-230316	410-119221-16
D-02A-W-230314	410-119221-17
D-07-W-230315	410-119221-18
D-08-W-230314	410-119221-19
D-09-W-230315	410-119221-20
D-12-W-230316	410-119221-21
D-17-W-230314	410-119221-22
D-18-W-230314	410-119221-23

Summary Data Quality Review
CEMREC Legacy Sites – Tacoma
2023 1st Q Groundwater Sampling
ELLE Laboratory Groups: 410-119873-1 and 410-119221-1

Sample ID	Laboratory ID
D-19-W-230314	410-119221-24
D-24-W-230315	410-119221-25
D-25-W-230315	410-119221-26
D-26-W-230315	410-119221-27
D-27-W-230315	410-119221-28
DUP-2-WD-230314 (field duplicate of MW-12-W-230314)	410-119221-29
TB-1-T-230316 (Trip Blank)	410-119221-30
TB-2-T-230316 (Trip Blank)	410-119221-31
TB-3-T-230316 (Trip Blank)	410-119221-32
D-01-W-230321	410-119873-1
D-03A-W-230317	410-119873-2
D-06-W-230317	410-119873-3
MW-13-W-230321	410-119873-4
D-10-W-230317	410-119873-5
MW-18-W-230317	410-119873-6
MW-19-W-230321	410-119873-7
D-14-W-230321	410-119873-8
D-15-W-230316	410-119873-9
D-22-W-230317	410-119873-10
DUP-1-WD-230321 (field duplicate of D-01-W-230321)	410-119873-11
TB-4-T-230321 (Trip Blank)	410-119873-12
MW-25-W-230317	410-119873-13
MW-29-W-230316	410-119873-14
MW-32-W-230317	410-119873-15
MW-34-W-230317	410-119873-16

See Sample Receipt section below for information on sample IDs

Data were evaluated based on validation criteria established in the *National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020, as applied to the reported methodology.

The following data components were reviewed during the limited data validation procedure for compliance with method-specific or laboratory control charted criteria where appropriate: chain of custody forms, holding times, method/trip/instrument blanks, surrogate recoveries, matrix spike/matrix spike duplicate recoveries, laboratory and field duplicate results, laboratory control sample/laboratory control sample duplicate recoveries, reporting limits, and electronic data deliverables.

A summary of qualifiers that may be assigned to results in these laboratory groups is included in Table 1. Qualifiers that may be assigned to results include:

- U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

- DNR - Do Not Report. Another result is available that is more reliable or appropriate.

Multiple results in samples reported in these laboratory groups were flagged "cn" by the laboratory to indicate QC outliers associated with the results that are discussed in the case narrative. The ELLE laboratory information management system has been programmed to add the "cn" flag to all results in a batch or otherwise associated with QC outliers, regardless of whether the results were impacted by the QC outliers. All QC parameters indicated above were reviewed for all samples, where applicable, and data validation qualifiers were assigned when required.

Sample Receipt

Upon receipt by the laboratory, the sample container information was compared to the associated chain-of-custody (COC) and the cooler temperatures were recorded.

The sample naming scheme was updated post-sampling from [Well ID – YYYYMMDD-W] to [Well ID -W-YYMMDD]. This update was made universally in both the laboratory deliverables (portable data file and the electronic data file).

Discrepancies were noted for container labels associated with samples DUP-2 and MW-23 during sample login. Label errors were corrected by the laboratory as directed by AECOM. Container label DUP-1-W-2023031423 (from 410-119221-1) was relabeled DUP-2-WD-230314. Labels associated with MW-23 were missing the sample name and were identified using the sample collection date and time recorded on the sample container (MW-23-W-230314).

The sample container used for gasoline-range TPH analysis for MW-11 had headspace present. The result for gasoline-range TPH in MW-11 was qualified as estimated and flagged 'UJ' based on the presence of headspace.

TPH-Dx was not collected for MW-31 due to well the running dry during sample collection.

Organic Analyses

Samples were analyzed for VOCs and TPHs by the methods identified in the introduction of this report.

1. Holding Times – Acceptable except as noted below:

   VOCs by EPA 8260D – Samples D-15 and MW-29 were analyzed 3 days outside of the 14-day holding time. The results for benzene, ethylbenzene, toluene, total xylenes, and MTBE in D-15 and MW-29 were qualified as estimated and flagged 'UJ' based on holding time exceedance.

2. Blanks – Acceptable

3. Surrogates – Acceptable except as noted below:

   NWPTH-Dx – The percent recovery for o-terphenyl in sample MW-38 (5%) was below the control limits of 50-150%. The results for diesel-range and motor oil-range TPHs in sample MW-38 were qualified as estimated and flagged 'UJ' based on the low surrogate recovery.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted below:

   VOCs by EPA 8260D – MS/MSDs were performed using MW-11 and MW-30. Results were acceptable.

   An MS/MSD was performed using MW-21. The percent recoveries in the MS and the relative percent differences (RPDs) for the MS/MSD pair were outside the control limits as noted below:

Sample ID	Analyte	MS (%)	MSD (%)	Control Limits (%)	RPD (30% limit)
MW-21	Benzene	46%	ok	80-120	70%
	Ethylbenzene	46%	ok	80-120	73%
	MTBE	40%	ok	69-122	69%
	Toluene	47%	ok	80-120	70%
	Total Xylenes	46%	ok	80-120	72%

ok – acceptable result

   The results for benzene, ethylbenzene, MTBE, toluene, and total xylenes in MW-21 were qualified as estimated and flagged 'UJ' based on the MS/MSD results.

   NWTPH-Gx – MS/MSDs were performed using MW-11 and MW-21. Results were acceptable.

   NWPTH-Dx – An MS or MS/MSD was performed using MW-11 and MW-21. The percent recoveries for one or more analytes exceeded the control limits as indicated below:

Sample ID	Analyte	MS (%)	MSD (%)	Control Limits (%)	RPD (20% limit)
MW-11	Diesel range TPH (C12-24)	134%	NA	30-115	NA
MW-21	Diesel range TPH (C12-24)	9%	10%	30-115	ok

NA – not applicable

ok – acceptable result

   The results for diesel-range TPHs in samples MW-11 and MW-21 were qualified as estimated and flagged 'J' based on the MS and/or MSD recoveries.

6. Laboratory Duplicates (applicable to NWTPH-Dx analysis only) – Acceptable except as noted below:

   NWPTH-Dx – Laboratory duplicates were performed for NWTPH-Dx using MW-10, MW-14, MW-22, MW-34, and MW-13. Results were comparable.

   A laboratory duplicate was performed using MW-12. The RPD for motor oil-range TPH (66%) exceeded the control limit of 20%. The result for motor oil-range TPH in MW-12 was qualified as estimated and flagged 'J' based on the laboratory duplicate.

7. Field Duplicates – Acceptable

   General – Field duplicates were submitted for MW-12 and D-01 identified as DUP-2-WD and DUP-1-WD, respectively. A relative percent difference (RPD) limit of 30% was used to evaluate the data. Results were comparable with the exception of motor oil range TPH (C24-C40) in the MW-12/DUP-2 pair with an RPD of 35%. Analytical results for motor oil range TPH were qualified as estimated and flagged 'J' for MW-12 and DUP-2 due to field duplicate precision.

8. Reporting Limits – Acceptable except as noted below:

   General – One or more results were flagged 'J' by the laboratory to indicate the reported concentrations were above the method detection limits (MDLs) but below the reporting limits. Laboratory 'J'-flagged results are considered estimated. As the results are between the MDLs and the reporting limits, there are greater levels of uncertainty associated with the numerical results.

Overall Assessment of Data

The data reported in these laboratory groups, as qualified, are usable for meeting project objectives. The completeness for Eurofins Lancaster laboratory groups 410-119221-1 and 410-119873-1 is 100%.

Summary Data Quality Review
CEMREC Legacy Sites - Tacoma
2023 1st Quarter Groundwater Sampling
Eurofins Lancaster Laboratory Groups: 410-119873-1 and 410-119221-1

Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	EIM Code
MW-11-W-230313	410-119221-2	NWTPH-Gx	Gasoline-Range TPH (C7-C12)	43 U	ug/L	43 UJ	HS1
MW-11-W-230313	410-119221-2	NWTPH-Dx	Diesel-Range TPH (C12-C24)	1800	ug/L	1800 J	MD1
MW-12-W-230314	410-119221-2	NWTPH-Dx	Motor Oil-Range TPH (C12-C24)	2000	ug/L	2000 J	DU2
MW-21-W-230313	410-119221-5	SW8260D	Benzene	0.30 U	ug/L	0.30 UJ	MD2
MW-21-W-230313	410-119221-5	SW8260D	Ethylbenzene	0.40 U	ug/L	0.40 UJ	MD2
MW-21-W-230313	410-119221-5	SW8260D	MTBE	0.20 U	ug/L	0.20 UJ	MD2
MW-21-W-230313	410-119221-5	SW8260D	Toluene	0.30 U	ug/L	0.30 UJ	MD2
MW-21-W-230313	410-119221-5	SW8260D	Xylenes, total	1.4 U	ug/L	1.4 UJ	MD2
MW-21-W-230313	410-119221-5	NWTPH-Dx	Diesel-Range TPH (C12-C24)	200	ug/L	200 J	MD2, MD4
MW-38-W-230315	410-119221-14	NWTPH-DX	Diesel-Range TPH (C12-C24)	46 U	ug/l	46 UJ	SU2
MW-38-W-230315	410-119221-14	NWTPH-DX	Motor Oil-Range TPH (C12-C24)	100 U	ug/L	100 UJ	SU2
DUP-2-WD-230314	410-119221-29	NWTPH-DX	Motor Oil-Range TPH (C12-C24)	1400	ug/L	1400 J	DU2
D-15-W-230316	410-119873-9	SW8260D	Benzene	0.30 U	ug/l	0.30 UJ	SC1
D-15-W-230316	410-119873-9	SW8260D	Ethylbenzene	0.40 U	ug/l	0.40 UJ	SC1
D-15-W-230316	410-119873-9	SW8260D	MTBE	0.20 U	ug/l	0.20 UJ	SC1
D-15-W-230316	410-119873-9	SW8260D	Toluene	0.30 U	ug/l	0.30 UJ	SC1
D-15-W-230316	410-119873-9	SW8260D	Xylenes, total	1.4 U	ug/l	1.4 UJ	SC1
MW-29-W-230316	410-119873-14	SW8260D	Benzene	0.30 U	ug/l	0.30 UJ	SC1
MW-29-W-230316	410-119873-14	SW8260D	Ethylbenzene	0.40 U	ug/l	0.40 UJ	SC1
MW-29-W-230316	410-119873-14	SW8260D	MTBE	0.20 U	ug/l	0.20 UJ	SC1
MW-29-W-230316	410-119873-14	SW8260D	Toluene	0.30 U	ug/l	0.30 UJ	SC1
MW-29-W-230316	410-119873-14	SW8260D	Xylenes, total	1.4 U	ug/l	1.4 UJ	SC1

Notes:
J - estimated value
DU2 - laboratory duplicate precision outside limits
HS1 - Headspace greater than 6mm
MD1 - MS recovery above limit, MSD and MS/MSD RPD within limits.
MD2 - MS recovery below limit
MD4 - MSD recovery below limit
MS - matrix spike
MS - matrix spike duplicate
MTBE - methyl tert-butyl ether
RPD - relative percent difference
SC1 - analysis holding time exceeded.
SU2 - surrogate recovery below lower acceptance limit.
U - quantitation limit
ug/L - microgram per liter
UJ - approximate quantitation limit

Second Quarter 2023

AECOM
1111 3rd Ave
Suite 1600
Seattle, WA 98101
www.aecom.com

206 438 2700 tel
866 495 5288 fax

Memorandum

To	Brad Wynne, Project Manager Info FINAL
Subject	Summary Data Quality Review Chevron Environmental Management Company (CEMC) Legacy Sites – Tacoma Terminal 2023 2nd Quarter Groundwater Sampling
From	Christina Wheeler, Chemist Jennifer B. Garner, Chemist
Date	August 8, 2023

The summary data quality review of 42 groundwater samples and 6 trip blanks collected between May 22nd and May 26th, 2023, has been completed. The trip blanks have a sample date marked as May 9th, as this is the date the trip blanks were placed in the sample cooler and shipped with the sample containers. The samples were analyzed at Eurofins Lancaster Laboratories Environmental (ELLE) located in Lancaster, Pennsylvania, for selected volatile organic compounds (VOCs; benzene, ethylbenzene, toluene, methyl tertiary butyl ether [MTBE], and total xylenes) by EPA Method 8260D; total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology Methods NWTPH-Gx (gasoline-range TPH, carbon range C7-C12) and NWTPH-Dx (diesel-range and oil-range TPHs, carbon ranges C12-C24 and C24-C40, respectively). The laboratory provided summary reports containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. For this report, the sample identifications (IDs) do not include the sample matrix and date suffixes (W-230522, W-230524, etc.), unless required for clarity. The following samples are associated with ELLE laboratory groups 410-128093-1, 410-128356-1, and 410-128795-1:

Sample ID	Laboratory ID	Analyses
MW-11-W-230522	410-128093-1	VOCs, gasoline-range TPH
MW-10-W-230522	410-128093-2	VOCs, TPHs
D-02A-W-230523	410-128093-3	VOCs, TPHs
MW-23-W-230523	410-128093-4	VOCs, TPHs
D-19-W-230523	410-128093-5	VOCs, TPHs
MW-30-W-230523	410-128093-6	VOCs, TPHs
D-18-W-230523	410-128093-7	VOCs, TPHs
D-08-W-230523	410-128093-8	VOCs, TPHs
MW-12-W-230523	410-128093-9	VOCs, TPHs
D-09-W-230523	410-128093-10	VOCs, TPHs
MW-26-W-230523	410-128093-11	VOCs, TPHs
D-17-W-230523	410-128093-12	VOCs, TPHs
D-12-W-230524	410-128093-13	VOCs, TPHs
RMW-01-W-230524	410-128093-14	VOCs, TPHs
TB-T-230524 (Trip Blank)	410-128093-15	VOCs, gasoline-range TPH
MW-38-W-230525	410-128356-1	VOCs, TPHs
MW-39-W-230525	410-128356-2	VOCs, TPHs
D-26-W-230525	410-128356-3	VOCs, TPHs
D-27-W-230525	410-128356-4	VOCs, TPHs
D-22-W-230525	410-128356-5	VOCs, TPHs
MW-37-W-230525	410-128356-6	VOCs, TPHs
MW-34-W-230525	410-128356-7	VOCs, TPHs
D-25-W-230525	410-128356-8	VOCs, TPHs

AECOM

Summary Data Quality Review
CEMREC Legacy Sites – Tacoma
2023 2nd Quarter Groundwater Sampling
ELLE Laboratory Groups: 410-128093-1, 410-128356-1, and 410-128795-1:

Sample ID	Laboratory ID	Analyses
D-24-W-230525	410-128356-9	VOCs, TPHs
D-10-W-230525	410-128356-10	VOCs, TPHs
MW-36-W-230525	410-128356-11	VOCs, TPHs
MW-25-W-230525	410-128356-12	VOCs, TPHs
D-15-W-230524	410-128356-14	VOCs, TPHs
MW-29-W-230524	410-128356-15	VOCs, TPHs
D-01-W-230524	410-128356-16	VOCs, TPHs
D-06-W-230524	410-128356-17	VOCs, TPHs
DUP-1-WD-230524 (field duplicate of D-01-W-230524)	410-128356-18	VOCs, TPHs
MW-13-W-230524	410-128356-19	VOCs, TPHs
MW-18-W-230524	410-128356-20	VOCs, TPHs
TB-2-T-230525 (Trip Blank)	410-128356-21	VOCs, gasoline-range TPH
D-14-W-230526	410-128795-1	VOCs, TPHs
MW-21-W-230526	410-128795-2	VOCs, TPHs
MW-14-W-230526	410-128795-3	VOCs, TPHs
D-03A-W-230526	410-128795-4	VOCs, TPHs
MW-19-230526	410-128795-5	VOCs, TPHs
D-07-W-230526	410-128795-6	VOCs, TPHs
MW-22-W-230526	410-128795-7	VOCs, TPHs
DUP-2-WD-230526 (field duplicate of MW-22-W-230526)	410-128795-8	VOCs, TPHs
MW-32-W-230526	410-128795-9	VOCs, TPHs
TB-5-T-230530 (Trip Blank)	410-128795-10	VOCs
TB-6-T-230530 (Trip Blank)	410-128795-11	VOCs
TB-7-T-230530 (Trip Blank)	410-128795-12	VOCs
TB-8-T-230530 (Trip Blank)	410-128795-13	VOCs

Data were evaluated based on validation criteria established in the *National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020, as applied to the reported methodology.

The following data components were reviewed during the limited data validation procedure for compliance with method-specific or laboratory control charted criteria where appropriate: chain of custody forms, holding times, method/trip/instrument blanks, surrogate recoveries, matrix spike/matrix spike duplicate recoveries, laboratory and field duplicate results, laboratory control sample/laboratory control sample duplicate recoveries, reporting limits, and electronic data deliverables.

A summary of qualifiers that may be assigned to results in these laboratory groups is included in Table 1. Qualifiers that may be assigned to results include:

- U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

- DNR - Do Not Report. Another result is available that is more reliable or appropriate.

Multiple results in samples reported in these laboratory groups were flagged "cn" by the laboratory to indicate QC outliers associated with the results that are discussed in the case narrative. The ELLE laboratory information management system has been programmed to add the "cn" flag to all results in a batch or otherwise associated with QC outliers, regardless of whether the results were impacted by the QC outliers. All QC parameters indicated above were reviewed for all samples, where applicable, and data validation qualifiers were assigned when required.

Sample Receipt

Upon receipt by the laboratory, the sample container information was compared to the associated chain-of-custody (COC) and the cooler temperatures were recorded. All coolers were received at temperatures within the EPA-recommended limits of greater than 0°C and less than 6°C.

The sample collection times recorded on the container labels for MW-10 and D-18 did not match the sample collection times recorded on the COC. At the request of AECOM, the laboratory logged the samples using the times recorded on the COC after a review of the field notes.

Sample name D-**1**7-W-230525 was mislabeled on the COC and was corrected to D-**2**7-W-230525 at the request of AECOM. Sample D-12 was inadvertently listed on the COCs associated with sample delivery groups 410-128093-1 and 410-128356-1. Sample results for D-12 are included in sample delivery group 410-128093-1.

Groundwater was not collected at MW-20 and D-13 during this sampling event due to product being present at the time of sample collection. Groundwater was not collected at MW-24 and MW-31 due to insufficient groundwater at these locations during the time of sampling. Sample volume for TPH-Dx analysis was not collected at MW-11 due to insufficient groundwater during the time of sample collection. These samples are scheduled to be collected during the 3rd quarter 2023 sampling event.

Organic Analyses

Samples were analyzed for VOCs and TPHs by the methods identified in the introduction of this report.

1. Holding Times – Acceptable except as noted below:

   VOCs by Method 8260D – MW-32 was analyzed from a vial with a pH greater than 2 standard units. Gasoline range TPH was analyzed 5 days past the the method-recommended holding time of 7 days for unpreserved samples. The results for gasoline range TPH in sample MW-32 were qualified as estimated and flagged 'J'.

2. Blanks – Acceptable

3. Surrogates – Acceptable except as noted below:

   NWPTH-Dx – The percent recoveries for o-terphenyl in MW-30 (44%), D-17 (47%) and D-06 (43%) were below the control limits of 50-150%. The results for diesel-range and oil-range TPH in MW-30, D-17, and D-06 were qualified as estimated and flagged 'J' or 'UJ' based on the low surrogate recoveries.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable except as noted below:

   VOCs by EPA 8260D – The percent recovery for MTBE (67%) was below the control limits of 69-122% in the LCSD associated with analysis batch 410-383928. The percent recovery in the LCS and the relative percent difference (RPD) were acceptable for MTBE; therefore, results were not qualified based on the LCSD recovery.

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

   VOCs by EPA 8260D – MS/MSDs were performed using D-26 and MW-34. Results were acceptable.

   NWPTH-Gx – MS/MSDs were performed using D-26 and MW-34. Results were acceptable.

   NWPTH-Dx – MS/MSDs were performed using D-26 and MW-34. Results were acceptable.

6. Laboratory Duplicate (applicable to NWTPH-Dx analysis only) – Acceptable

   NWPTH-Dx – Laboratory duplicates were performed using MW-10, and D-02A. Results were comparable.

7. Field Duplicates – Acceptable

   General – Field duplicates were submitted for D-01 and MW-22 and identified as DUP-1-WD and DUP-2-WD, respectively. A relative percent difference (RPD) limit of 30% was used to evaluate the data. Results were comparable.

8. Reporting Limits – Acceptable except as noted below:

   General – One or more results in multiple samples were flagged 'J' by the laboratory to indicate the reported concentrations were above the method detection limits (MDLs) but below the reporting limits. Laboratory 'J'-flagged results are considered estimated. As the results are between the MDLs and the reporting limits, there are greater levels of uncertainty associated with the numerical results.

9. Other Items of Note:

   VOCs by Method 8260D – The laboratory noted that the percent differences (%Ds) for methyl tertiary butyl ether (MTBE) in the continuing calibration verifications (CCVs) associated with analytical batches 410-381952 and 410-383928 were below the method acceptance criteria. The results for MTBE in samples MW-11, MW-10, D-02A, MW-23, D-19, MW-30, D-18, D-08,

MW-12, D-09, MW-26, D-17, D-12, RMW-01, TB-T-230524, MD-14, MW-21, MW-14, D-03, MW-19, D-07, MW-22, DUP-2, and MW-32 were qualified as estimated and flagged 'UJ' based on the low CCV %Ds.

Overall Assessment of Data

The data reported in these laboratory groups, as qualified, are usable for meeting project objectives. The completeness for Eurofins Lancaster laboratory groups 410-128093-1, 410-128356-1, and 410-128795-1 is 100%.

Summary Data Quality Review
CEMREC Legacy Sites - Tacoma
2023 2nd Quarter Groundwater Sampling
Eurofins Lancaster Laboratory Groups: 410-128093-1, 410-128356-1, and 410-128795-1

Table 1 - Summary of Qualified Data

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result
MW-30-W-230523	410-128093-6	NWTPH-Dx	Diesel-Range TPH (C12-C24)	4400	ug/L	4400 J
MW-30-W-230523	410-128093-6	NWTPH-Dx	Motor Oil-Range TPH (C12-C24)	1200	ug/L	1200 J
D-17-W-230523	410-128093-12	NWTPH-Dx	Diesel-Range TPH (C12-C24)	81 J	ug/L	81 J
D-17-W-230523	410-128093-12	NWTPH-Dx	Motor Oil-Range TPH (C12-C24)	110 U	ug/L	110 UJ
MW-11-W-230522	410-128093-1	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-10-W-230522	410-128093-2	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-02A-W-230523	410-128093-3	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-23-W-230523	410-128093-4	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-19-W-230523	410-128093-5	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-30-W-230523	410-128093-6	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-18-W-230523	410-128093-7	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-08-W-230523	410-128093-8	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-12-W-230523	410-128093-9	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-09-W-230523	410-128093-10	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-26-W-230523	410-128093-11	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-17-W-230523	410-128093-12	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-12-W-230524	410-128093-13	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
RMW-01-W-230524	410-128093-14	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
TB-T-230524	410-128093-15	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-06-W-230524	410-128356-17	NWTPH-Dx	Diesel-Range TPH (C12-C24)	2100	ug/L	2100 J
D-06-W-230524	410-128356-17	NWTPH-Dx	Motor Oil-Range TPH (C12-C24)	220 J	ug/L	220 J
D-14-W-230526	410-128795-1	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-21-W-230526	410-128795-2	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-14-W-230526	410-128795-3	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-03A-W-230526	410-128795-4	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-19-230526	410-128795-5	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
D-07-W-230526	410-128795-6	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-22-W-230526	410-128795-7	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
DUP-2-WD-230526	410-128795-8	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-32-W-230526	410-128795-9	SW8260D	MTBE	0.2 U	ug/L	0.2 UJ
MW-32-W-230526	410-128795-9	NWTPH-Gx	Gasoline-Range TPH (C7-C12)	1000	ug/L	1000 J

Notes:
CCV1- continuing calibration verification standard (low bias)
J - estimated value
MTBE - methyl tert-butyl ether

3rd Quarter 2023

AECOM
1111 3rd Ave
Suite 1600
Seattle, WA 98101
www.aecom.com

206 438 2700 tel
866 495 5288 fax

Memorandum

To	Brad Wynn, Project Manager Info FINAL
Subject	Summary Data Quality Review Chevron Environmental Management Company (CEMC) Legacy Sites – Tacoma Terminal 2023 3rd Quarter Groundwater Sampling
From	Amelia McArthur, Chemist Jennifer B. Garner, Chemist
Date	September 27, 2023

The summary data quality review of 42 groundwater samples, 3 trip blanks, and 1 rinsate blank collected between August 7th and August 11th, 2023, has been completed. The trip blanks have sample dates marked as August 7th and August 11th, as these are the dates the trip blanks were placed in the sample cooler and shipped with the sample containers. The samples were analyzed at Eurofins Lancaster Laboratories Environmental (ELLE) located in Lancaster, Pennsylvania, for selected volatile organic compounds (VOCs; benzene, ethylbenzene, toluene, methyl tertiary butyl ether [MTBE], and total xylenes) by EPA Method 8260D; total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology Methods NWTPH-Gx (gasoline-range TPH, carbon range C7-C12) and NWTPH-Dx (diesel-range and oil-range TPHs, carbon ranges C12-C24 and C24-C40, respectively). The laboratory reported both non-silica gel cleaned and silica gel cleaned results for all samples except MW-30-W-230808. Only non-silica gel cleaned results were reported for MW-30-W-230808. The laboratory provided summary reports containing sample results and associated quality assurance (QA) and quality control (QC) data for all samples. For this report, the sample identifications (IDs) do not include the sample matrix and date suffixes (W-20230807, W-230808, etc.), unless required for clarity. The following samples are associated with ELLE laboratory groups 410-138623-1 and 410-138766-1:

Sample ID	Laboratory ID	Analyses
MW-21-W-230807	410-138623-1	VOCs, TPHs
MW-12-W-230808	410-138623-2	VOCs, TPHs
D-02A-W-230808	410-138623-3	VOCs, TPHs
D-08-W-230808	410-138623-4	VOCs, TPHs
MW-23-W-230808	410-138623-5	VOCs, TPHs
MW-26-W-230808	410-138623-6	VOCs, TPHs
D-18-W-230808	410-138623-7	VOCs, TPHs
MW-30-W-230808	410-138623-8	VOCs, TPHs
D-17-W-230808	410-138623-9	VOCs, TPHs
MW-31-W-230808	410-138623-10	VOCs, diesel-range TPH
D-09-W-230808	410-138623-11	VOCs, TPHs
MW-24-W-230808	410-138623-12	VOCs, TPHs
D-19-W-230808	410-138623-13	VOCs, TPHs
MW-39-W-230809	410-138623-14	VOCs, TPHs
D-27-W-230809	410-138623-15	VOCs, TPHs
RMW-01-W-230809	410-138623-16	VOCs, TPHs
D-12-W-230809	410-138623-17	VOCs, TPHs
MW-29-W-230809	410-138623-18	VOCs, TPHs
D-15-W-230809	410-138623-19	VOCs, TPHs
D-22-W-230809	410-138623-20	VOCs, TPHs

AECOM

Summary Data Quality Review
CEMREC Legacy Sites – Tacoma
2023 3rd Quarter Groundwater Sampling
ELLE Laboratory Groups: 410-138623-1 and 410-138766-1

Sample ID	Laboratory ID	Analyses
D-10-W-230809	410-138623-21	VOCs, TPHs
MW-34-W-230809	410-138623-22	VOCs, TPHs
MW-25-W-230809	410-138623-23	VOCs, TPHs
TB-1-T-20230807 (trip blank)	410-138623-24	VOCs, gasoline-range TPH
TB-2-T-20230807 (trip blank)	410-138623-25	VOCs, gasoline-range TPH
MW-14-W-230810	410-138766-1	VOCs, TPHs
MW-13-W-230810	410-138766-2	VOCs, TPHs
MW-18-W-230810	410-138766-3	VOCs, TPHs
D-06-W-230810	410-138766-4	VOCs, TPHs
D-14-W-230810	410-138766-5	VOCs, TPHs
MW-19-W-230810	410-138766-6	VOCs, TPHs
MW-38-W-230810	410-138766-7	VOCs, TPHs
MW-37-W-230810	410-138766-8	VOCs, TPHs
MW-36-W-230810	410-138766-9	VOCs, TPHs
D-25-W-230810	410-138766-10	VOCs, TPHs
D-26-W-230810	410-138766-11	VOCs, TPHs
D-24-W-230810	410-138766-12	VOCs, TPHs
D-01-W-230811	410-138766-13	VOCs, TPHs
DUP-1-WD-230811 (field duplicate of D-01-W-230811)	410-138766-14	VOCs, TPHs
D-07-W-230811	410-138766-15	VOCs, TPHs
MW-22-W-230811	410-138766-16	VOCs, TPHs
DUP-2-WD-230811 (field duplicate of MW-22-W-230811)	410-138766-17	VOCs, TPHs
D-03A-W-230811	410-138766-18	VOCs, TPHs
MW-32-W-230811	410-138766-19	VOCs, TPHs
RB-1-R-230811 (rinsate blank)	410-138766-20	VOCs, TPHs
TB-3-T-230811 (trip blank)	410-138766-21	VOCs, gasoline-range TPH

Data were evaluated based on validation criteria established in the *National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020, as applied to the reported methodology.

The following data components were reviewed during the limited data validation procedure for compliance with method-specific or laboratory control charted criteria where appropriate: chain of custody forms, holding times, method/trip/instrument blanks, surrogate recoveries, matrix spike/matrix spike duplicate recoveries, laboratory and field duplicate results, laboratory control sample/laboratory control sample duplicate recoveries, reporting limits, and electronic data deliverables.

A summary of qualifiers that may be assigned to results in these laboratory groups is included in Table 1. Qualifiers that may be assigned to results include:

- U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

- DNR - Do Not Report. Another result is available that is more reliable or appropriate.

Multiple results in samples reported in these laboratory groups were flagged "cn" by the laboratory to indicate QC outliers associated with the results that are discussed in the case narrative. The ELLE laboratory information management system has been programmed to add the "cn" flag to all results in a batch or otherwise associated with QC outliers, regardless of whether the results were impacted by the QC outliers. All QC parameters indicated above were reviewed for all samples, where applicable, and data validation qualifiers were assigned when required.

Sample Receipt

Upon receipt by the laboratory, the sample container information was compared to the associated chain-of-custody (COC) and the cooler temperatures were recorded. One cooler associated with laboratory group 410-138766-1 was received at a temperature exceeding the EPA-recommended limits of greater than 0°C and less than 6°C at 13.4°C due to a shipping delay. The sample containers arrived in good condition and were below 20°C; therefore, no data were qualified based on the elevated cooler temperature.

The sample collection times recorded on the container labels for MW-26 and MW-23 did not match the sample collection times recorded on the COC. After review of the field notes, AECOM instructed the laboratory to log the samples using the sample collection times recorded on the COC.

The sample identifications (IDs) for D-18-W-230808 and D-08-W-230808 were mislabeled on the sample containers; however, they were correctly labeled on the COC. The laboratory used the sample IDs indicated on the COC at the request of AECOM.

The laboratory noted that the numbers of sample containers indicated on the COC did not match the number of sample containers received for multiple samples. Sufficient volume was submitted for each sample allowing the required analyses to proceed except as noted below.

There was insufficient recharge in the well at MW-31-W-230808; therefore, only volume for VOCs and NWTPH-Dx was collected.

Analysis for NWTPH-Dx was incorrectly marked on the COC for the trip blank associated with laboratory group 410-138766-1. This trip blank was not analyzed for NWTPH-Dx.

Organic Analyses

Samples were analyzed for VOCs and TPHs by the methods identified in the introduction of this report.

1. Holding Times – Acceptable

2. Blanks – Acceptable except as noted below:

   NWPTH-Dx – Oil-range TPH (carbon range C24-C40) was detected in the silica gel treated method blank associated with preparation batch 410-409930 at a concentration of 374 ug/L. Silica gel treated oil-range TPH (carbon range C24-C40) was detected in MW-13 and MW-14 at

concentrations between the method detection limits (MDLs) and the laboratory reporting limits; therefore, the result for silica gel treated oil range TPH in these samples were qualified as not detected and flagged 'U' at the reporting limits.

Diesel-range TPH (carbon range C12-C24) was detected in the rinsate blank (RB-1) at a concentration between the MDL and the laboratory reporting limit at 53 ug/L. The results for C12-C24 in MW-31 and D-17 were qualified as not detected and flagged 'U' at the reporting limits. Diesel-range TPH (carbon range C12-C24) was detected in samples D-17 and MW-31 at concentrations between the MDLs and the laboratory reporting limits; therefore, the results for diesel-range TPH (carbon range C12-C24) were qualified as not detected and flagged 'U' at the reporting limits in these samples. Diesel-range TPH (carbon range C12-C24) was detected in D-26, MW-37, D-24, and D-07 at concentrations above the laboratory reporting limits but less than two times the laboratory reporting limits. The results for diesel-range TPH in these samples were qualified as estimated and flagged 'J' based on the rinsate blank detection. Diesel-range TPH was either reported as not detected or was reported at concentrations greater than two times the laboratory reporting limits in the other samples collected during this sampling event; therefore, no other qualifications based on the rinsate blank were required.

3. Surrogates – Acceptable except as noted below:

NWPTH-Dx – The percent recoveries for o-terphenyl in the laboratory duplicate performed using MW-21 (43%), the matrix spike performed using D-26 (44%), and the method blank associated with preparation batch 410-409063 (47%) were below the control limits of 50-150%. Data are not qualified based on surrogate recoveries in quality control samples (duplicates, matrix spikes, and method blanks).

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable except as noted below:

NWPTH-Dx – The relative percent difference (RPD) for diesel-range TPH (carbon range C12-C24, 29%) exceeded the control limits of 20% in the LCS/LCSD associated with preparation batch 410-409063. The percent recoveries for diesel-range TPH (carbon range C12-C24) in the LCS and LCSD were acceptable; therefore, results were not qualified based on the elevated RPD.

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

VOCs by EPA 8260D – MS/MSDs were performed using D-26 and MW-34. Results were acceptable.

NWPTH-Gx – MS/MSDs were performed using D-26 and MW-34. Results were acceptable.

NWPTH-Dx – MS/MSDs were performed using D-26 and MW-34. Results were acceptable except as noted below:

Sample ID	Analyte	MS	MSD	Control Limits
MW-34	C12-C24	28%	ok	30-115%
D-26	C12-C24 (silica gel treated)	21%	21%	30-115%
D-26	C12-C24	14%	13%	30-115%

ok – acceptable result

The percent recovery in the MSD and the RPD for the MS/MSD pair were acceptable for the MS/MSD performed using MW-34; therefore, no data were qualified in this sample based on the

low MS recovery. The result for silica gel treated diesel-range TPH (carbon range C12-C24) in D-26 was qualified as estimated and flagged 'UJ' based on the MS/MSD recoveries. The result for diesel-range TPH (carbon range C12-C24) in D-26 was previously qualified based on the rinsate blank; therefore, no further qualification based on the MS/MSD recoveries was required.

6. Laboratory Duplicate (applicable to NWTPH-Dx analysis only) – Acceptable

   NWPTH-Dx – Laboratory duplicates were performed using MW-21, MW-34 (silica gel treated), MW-25 (silica gel treated and non-silica gel treated), and MW-32 (silica gel treated and non-silica gel treated). Results were comparable except as noted below.

   The RPD for silica gel treated diesel-range TPH (carbon range C12-C24, 24%) for the laboratory duplicate performed using MW-25 exceeded the laboratory control limit of 20%. The concentration for diesel-range TPH (carbon range C12-C24) in MW-25 was between the MDL and the laboratory reporting limit; therefore, no data were qualified based on the elevated laboratory duplicate RPD.

7. Field Duplicates – Acceptable

   General – Field duplicates were submitted for D-01 and MW-22 and identified as DUP-1 and DUP-2, respectively. An RPD limit of 30% was used to evaluate the data. Results were comparable.

8. Reporting Limits – Acceptable except as noted below:

   General – One or more results in multiple samples were flagged 'J' by the laboratory to indicate the reported concentrations were above the MDLs but below the laboratory reporting limits. Laboratory 'J'-flagged results are considered estimated. As the results are between the MDLs and the reporting limits, there are greater levels of uncertainty associated with the numerical results.

9. Other Items of Note:

   VOCs by EPA 8260D – The internal standard response for t-butyl alcohol-d10 was outside laboratory acceptance criteria for the trip blanks associated with laboratory group 410-138766-1. This internal standard is not associated with the reported analytes; therefore, no data were qualified based on the internal standard response.

Overall Assessment of Data

The data reported in these laboratory groups, as qualified, are usable for meeting project objectives. The completeness for Eurofins Lancaster laboratory groups 410-138623-1 and 410-138766-1 is 100%.

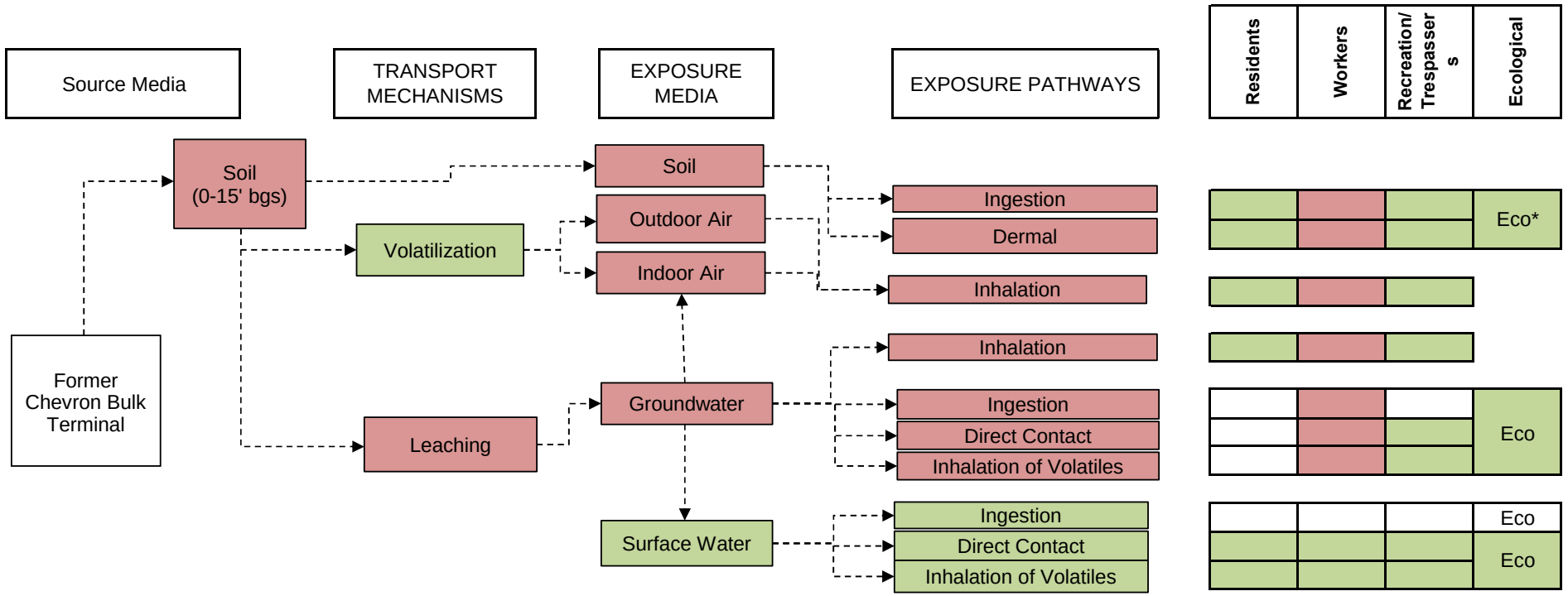
Appendix G

Conceptual Site Models

2023 Conceptual Site Model

Appendix G - 2023 Updated CSM

Updated Remedial Investigation Report
Tacoma, Washington



Legend

- Pathway
- Pathway of concern
- Pathway not a risk or regulatory concern
- Pathway has been eliminated

* Assumes a soil management plan to address subsurface soil disturbances

2013 Conceptual Site Model

Chevron Facility #: 1001348
Property address: 1656 East J Street, Tacoma, WA
Regulatory Agency: Washington State Department of Ecology
Regulatory ID(s)/Code(s): 1234 / 3762

CSM Revision History

Revision History:

CSM Version #	Author	Date	Sections Updated / Comments
1.0	D. Wyll	15-SEPT-2013	Revision 1

This CSM format is based on information from the following sources:

1. American Petroleum Institute (API)
2. American Society for Testing and Materials (ASTM)
3. British Columbia Ministry of Environment Technical Guidance on Contaminated Sites (BC MoE TG)
4. California State Water Resources Control Board Leaking Underground Fuel Tank Guidance Manual (CSWRCB LUFT)
5. Canada GUIDANCE MANUAL FOR ENVIRONMENTAL SITE CHARACTERIZATION IN SUPPORT OF HUMAN HEALTH RISK ASSESSMENT
6. European Groundwater and Contaminated Land Information System (EUGRIS)
7. NewMOA
8. United Nations Industrial Development Organization (UNIDO)
9. United States Environmental Protection Agency (EPA) ; EPA - July 2011
10. United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA)

© Chevron Corporation

Contents

Chevron CSM Guidance ..... **Error! Bookmark not defined.**

1. Site Background, Context and History 3
2. Regional and Site Geology / Hydrogeology 5
3. Source 5
4. Media of Concern 6
5. Contaminant(s) of Concern 6
6. Plume Delineation and Stability 7
7. Pathways and Receptors 9
8. Data Gap Analysis (Describe remaining gap(s)) 11

Appendix 12

© Chevron Corporation

CSM – 1001348 Tacoma, WA

1. Site Background, Context and History

A. Site Description and Vicinity

The site is a fenced 3.5 acre former Standard Oil bulk terminal located within the Commencement Bay Nearshore/Tideflats Superfund boundary in Tacoma, Washington. The site is located approximately 1,500 feet northwest and down-gradient of the Tacoma Tar Pits (former coal glassification plant which operated from 1924-1956) 2,000 feet east of the Thea Foss Waterway, and 2,000 feet west of the Puyallup River. Properties adjacent to the site include the Northwest Detention Center to the east, Pacific Machine Inc. and Rainier Plywood to the north, Steeler Inc. to the west and a railroad switchyard owned by Burlington Northern Railroad to the south (SAIC, 2010).

The site operated as a bulk fuel and distribution terminal from approximately 1905 through 1988. Thirteen above-ground tanks (ASTs) and four underground storage tanks (USTs), ranging in size from 10,000 to 1.6 million gallons and containing gasoline, diesel, light and industrial fuel oil, aviation gasoline, stove and furnace oil, and additives. Lube oil was also stored in barrels onsite. Additional infrastructure included two tanker truck-loading racks, two office buildings, several garages, and a platform. Facilities were subsequently decommissioned and removed between 1989 and 1990, including docks and a pier that facilitated marine fueling operations (SAIC, 2010). The northern underground fuel supply line was flushed and cleaned and subsequently abandoned in place and/or removed (Hart Crowser, 1989). Chevron sold the site to Bowman Propane in 1999. The site was acquired by Reinhard Petroleum in November 2004 and was used to stage petroleum transport trucks. In 2009 the site was purchased by the GEO, who has leased the property to a variety of tenants and plans to utilize the site for transportation offices, parking for transportation vehicles, and employee parking for the adjacent Northwest Detention Center.

B. Regional Setting

i. Geography, Topography and Site Elevation

The site is located in an industrial area. The site is relatively flat and located approximately 10 feet above means sea level (SAIC, 2010).

ii. Surface Water Drainage / Distance to Closest Surface Water Body

The site is located approximately 2,000 feet east of the Thea Foss Waterway and 2,000 feet west of the Puyallup River (SAIC, 2010). Site surface water drainage is channeled to a drainage swell alone the southern property line.

iii. Climate

The City of Tacoma experiences relatively moderate seasonally variations. Daytime temperatures in the summer typically range from 60-75° Fahrenheit and winter temperatures range between 40-50° Fahrenheit. Monthly average precipitation ranges from 0.8" to 5" with the wet season typically between November and January. (US Climate Data, 2013).

iv. Vegetation

Site surfaces consist of pavement, gravel, grass, and weeds. No native species of significance are believed to exist on the site.

C. Release History 1st Release

Petroleum impacted soil and groundwater at the site is believed to have occurred as a result of historic bulk fuel operations and cannot be traced to a specific initial release.

ii. Any Subsequent Release(s)

D. Summary of Previous Site Investigations and Remedial Activities

i. 1st Remediation

In 1984, ten groundwater observation wells were installed at the site. No soil samples were collected during installation, however, subsequent monitoring indicated LNAPL was present (SAIC, 2006).

ii. Any Subsequent Remediation(s) (Describe, or state "None")

In 1989 the northern bulk fuel supply lines were removed from between the shore to approximately 850 feet east of where they went beneath the warehouse. Analytical results from soil samples collected from the bottom of the trench indicate concentrations below draft agency cleanup guidelines for the site (SAIC, 2006).

In the early 1990s Chevron planted approximately 500 trees along the property boundary as an experimental test of phytoremediation. The test was designed to minimize offsite groundwater migration and accelerate hydrocarbon biodegradation. These trees have subsequently been removed from the site (SAIC, 2010).

In 1999 Bowman Oil and Propane took ownership of the site. A 6" gravel cap was placed over the site and old barrels, debris, and remaining phytoremediation trees were removed (SAIC, 2006).

In 2001, approximately 58 tons of petroleum-impacted soil in the vicinity of the sewer and electrical lines at the intersection of F Street and J Street were disposed off-site. Three stockpile samples were collected and one sample was above MTCA Method A levels for diesel-range hydrocarbons. Impacted soil was removed and disposed of off-site.

Multiple site assessment activities have taken place at the site between 1984 and 2012. Groundwater has been evaluated by installing thirty-nine monitoring wells, screened in both the shallow and deep aquifers. Currently groundwater is sampled on a quarterly basis from fifteen wells. Soil investigations have included the installation of 90 soil borings using hand auger or mechanical means to a total depth of between 1 and 19 feet bgs and 103 test pits were dug both on and offsite.

E. Offsite Sources

Historical records indicate a Signal Oil Company operated a facility down gradient of the site adjacent to the northeast side (SAIC, 2006).

The site is located within the Commencement Bay Nearshore/Tideflat superfund area. In addition to numerous historical industrial operations in the vicinity of the site, the Tacoma Tar Pits, a former coal gasification plant operated nearby from 1924-1956) (SAIC, 2010).

None of the offsite sources are likely to have impacted the property.

2. Regional and Site Geology / Hydrogeology

Geology:

The site soil lithology is composed of three units. The top 3.5 to 11 feet consists of dredged fill, composed of fine to medium sand with varying amounts of silt and some marine shell fragments. Underlying the fill unit is 3 to 6 feet of native soil consisting of silt with varying amounts of sand, organic matter and clay. Beneath this is a unit of fine to medium sand with varying amounts of silt. The top of this unit is 11 to 16 feet deep and the unit varies in thickness between approximately 5 and 70 feet (SAIC, 2011).

Hydrogeology:

Two aquifers have been identified beneath the site. The upper aquifer is unconfined in the fill material and is separated from the underlying aquifer by an aquitard of clayey silt and sandy silt. The upper aquifer may be dewatered during periods of prolonged dry weather. The depth to groundwater in the upper aquifer has ranged from about 0.5 to 7 feet bgs. This groundwater appears to mound and flow radially away from the center of the subject property; mostly east and southeast towards the Puyallup River. It does not appear to be tidally influenced (SAIC, 2011).

The lower confined aquifer in the sandy unit is influenced by tidal fluctuations in the Puyallup River and possibly the Wheeler-Osgood Waterway. The lower groundwater aquifer flow direction during low tide is to the northwest. The depth to groundwater in the lower confined aquifer ranged from 7 to 10 feet bgs. The lower aquifer has a general groundwater flow direction ranging from northwest to northeast depending on the tidal influence; northwest flow is toward the waterway (SAIC, 2011).

3. Source

A. Ongoing

None: All facility infrastructure, tanks, and piping have been removed from the site.

B. Contained / Stable (not migrating) or controlled using engineered

All ongoing sources of petroleum impacts have been removed from the site. Analytical results indicate that concentrations of petroleum constituents have been decreasing in groundwater historically, therefore, the plume is considered stable.

C. Interventions

Not applicable

D. Release Mechanism

Records do not indicate specific releases. However the AST areas and former tanker truck loading racks are a likely release source (the only current area with LNAPL).

4. Media of Concern

Soil and groundwater beneath the site exceed the Washington State Model Toxics Control Act (MTCA) cleanup levels. The WDOE has indicated that surface water is a media of concern, however the dissolved plume is stable and does not reach the surface water. The WDOE has not indicated that sediments in the vicinity of the former dock are a concern.

Groundwater beneath the site is non-potable.

5. Contaminant(s) of Concern

A. Contaminant Name(s)

The following constituents were present in soil above MTCA Method A regulatory criteria in samples collected between 2010-2013:

Diesel-range hydrocarbons
Gasoline-range hydrocarbons
Heavy oil-range hydrocarbons
Benzene
Ethylbenzene
Total Xylenes

The following constituents were present in groundwater above MTCA Method A regulatory criteria during 2013 sampling events:

Diesel-range hydrocarbons
Gasoline-range hydrocarbons
Benzene

B. Analytical Results (i.e. the range of concentration for each contaminant of concern)

Soil Concentrations Range (2010-2013)		
Constituent	**Soil (mg/kg)**	**MTCA Method A Cleanup Levels (mg/kg)**
TPH- gasoline	1.6-32,000	30/100*
TPH- diesel	4.7-37,000	2,000
TPH-oil	12-20,000	2,000
Benzene	.0006-9.30	0.03
Toluene	.001-.84	7
Ethylbenzene	.001-8.7	6
Total Xylenes	.001-30	9
Lead	2.04-8.35	250

*30 mg/kg when benzene is present is sample, 100 if not.

Groundwater Concentration Range (Last 4 Qtrs)		
Constituent	**Groundwater (µg/L)**	**MTCA Method A Cleanup Levels (µg/L)**
TPH- gasoline	50-2,900	800/1,000*
TPH- diesel	30-27,000	500
TPH-oil	150-2,600	500
Benzene	0.6-87	5
Toluene	0.5-2.4	1,000
Ethylbenzene	0.6-5.9	700
Total Xylenes	1.6-8.7	1,000
PAHs	0.087-2.7	1.0

*800 µg/L when benzene is present is sample, 1,000 if not.
< – Laboratory Detection Limit

C. Monitoring Results

Groundwater monitoring and sampling is currently conducted on a quarterly basis. Analytical results indicate that concentrations of petroleum constituents have been steadily decreasing and the plume is stable.

6. Plume Delineation and Stability

A. Vertical / Horizontal Extent and Stability of Impact for All Media

i. Vertical

Soil

Approximately two-thirds of the upper soil layer at the site appears to be impacted with gasoline-range hydrocarbons, much of this is in combination with diesel fuel. The other third of the upper soil unit is primarily contaminated with diesel, in some areas combined with heavier fuel components.

Groundwater

LNAPL is present in groundwater monitoring well MW-20, located in the center of the site. Historically groundwater monitoring wells across the site have had petroleum constituents present; however concentrations have been declining.

ii. Horizontal

Soil

Impacts exceeding cleanup levels were detected across the majority of the site at depths ranging from approximately 2 to 8 feet bgs. The highest concentrations of impacts have generally been located in the areas of:

- East of former Tanks 24-28 (southern quarter of the site);
- In the vicinity former loading racks in the central portion of the site (the area of LNAPL):
- North of the former Tank # 29; and
- In the vicinity of the former Tank 30.

Groundwater

Groundwater wells distributed across the site, and around the perimeter, in both the shallow and deep aquifers are in compliance with MTCA Method A cleanup levels with the exception of MW-20, MW-19 and MW-13, located in the center and northwest corner of the site.

The extent of offsite dissolved-phase plume migration in the areas downgradient of former wells MW-8, MW-9 and MW-16 is unknown and has been noted as a data gap

iii. Plume Stability

Groundwater monitoring is conducted on a quarterly basis at the site. LNAPL has only been detected in MW-20 and analytical results indicate that concentrations of petroleum constituents have been historically been decreasing in the remaining groundwater monitoring wells located across the site and around the perimeter of the property. All ongoing sources of recontamination have been removed. The dissolved-phase and LNAPL plumes are stable and decreasing.

B. Volume of Spill (each medium)

No spills have been documented.

C. Mass estimates – Not required by WA State

i. Basis for estimate

Not Calculated.

ii. Estimated released

Not Calculated..

iii. Estimated remediated

Not Calculated.

D. Biodegradation rates

i. Model Used

Unknown.

ii. Assumptions

Unknown.

E. Migration rates, variability across site

i. Migration Rates

Not calculated.

ii. Variability

Not calculated.

7. Pathways and Receptors

A. Potential Receptors

The site history indicates that the primary sources of potential contamination would have been from discharges of petroleum products to surface or subsurface soils via leaks or spills. Surface water currently drains to the southwest corner of the site in a retention pond and the site is surrounded by a 3 foot high concrete wall (SAIC, 2010).

The City of Tacoma is served by a municipal water supply whose source is from the Green River watershed, the closest well is 1.5 miles up gradient from the site. Two deep production wells are located near the site and are currently monitored by USEPA as part of the Superfund portion of

the East J Street property. Shallow groundwater in the vicinity of the site was designated non-potable by the USEPA in 1987.

Significant exposure of terrestrial organisms to potentially contaminated soil at the site is considered to below due to the limited size and fragmented nature of habitat in the area (SAIC, 2010).

B. Transport mechanism from plume to receptor (e.g., volatilization, advection in ground water, utilities, etc.)

i. Flow System (Include method of deriving migration rate)

Unknown.

ii. Geologic System (Include method of deriving variability information)

Unknown.

C. Potential Exposure Pathways (e.g., direct contact, inhalation, etc)

Contaminated media at the Site includes soil and groundwater. MTCA [WAC 173-340-200] defines an exposure pathway as: "the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from a site." Primary exposure pathways are those routes that are known to be currently transporting petroleum contaminants to or within a certain medium (such as soil contamination to groundwater). Secondary exposure pathways are those routes that: (a) have transported contaminants in the past, but may not be currently (such as releases from ASTs); or (b) may transport contaminants in the future, but do not currently. Precluded exposure pathways are those that are not possible at any time, based on physical evidence, and are therefore considered closed pathways.

Petroleum constituents have been detected in soil and groundwater samples collected at the site. Therefore, soil and groundwater (with LNAPL), are contaminated media but may also be considered secondary contaminant sources.

D. Risk Evaluation (e.g., is pathway complete? If so, are concentrations above protective levels?)

The potential exposure pathways associated with each medium/source are discussed below, along with the rationale for excluding or including that pathway.

- Shallow groundwater at or near the site is not potable due to it's proximity to the harbor. The fact that contaminated groundwater is not potable excludes the potential for human ingestion and dermal contact with affected groundwater at this time.

- The exposure pathway from dermal contact and vapor inhalation during subsurface work are considered secondary exposure pathways.
- The point of compliance for groundwater is the groundwater/surface water interface. The groundwater discharge to surface water pathway is considered to be a potential exposure pathway however current groundwater analytical data indicate that the dissolved plume does not extend to the harbor.
- The contaminated soil is considered to be a potential direct contact exposure pathway.

8. Data Gap Analysis

Soil

Soil data gaps still exist along the southern former pipeline alignment. These data gaps will be closed as soon as the project team is able to complete and access agreement with the neighboring property owner (Figure 1).

Soil data gaps exist offsite to the north –northwest within F Street. These data gaps will be partially closed during the proposed Supplemental RI Work Plan. Soil data gaps exists along the rail lines to the west and south property lines. These data gaps do not exist if the project team can convince WDOE to base the extent of the "Site" on MTCA Method B direct contact cleanup levels.

Groundwater

The extent of offsite dissolved-phase plume migration in the areas downgradient of former wells MW-8, MW-9 and MW-16 is unknown

Vapor

Vapor intrusion potential had not yet been evaluated but will be as part of the RI/FS.

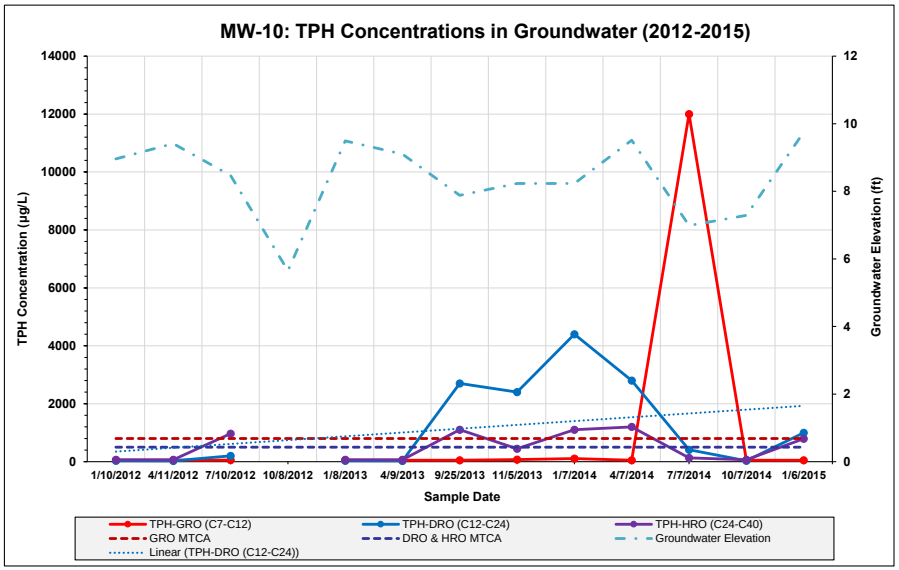
Appendix

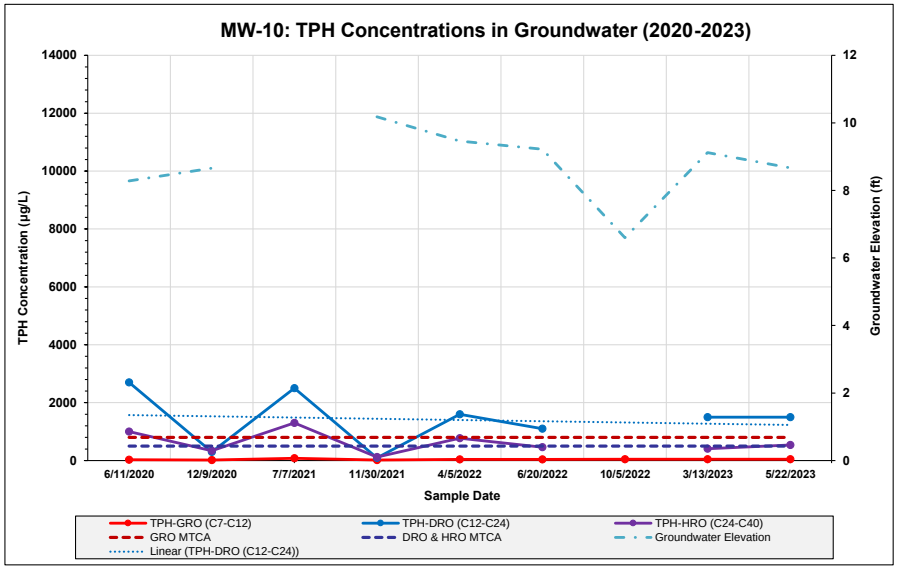
References	SAIC, 2010. Interim Remedial Investigation Report. Former Standard Oil Bulk Terminal Facility No. 1001348. September 11, 2011. SAIC, 2010. Remedial Investigation Work Plan. Former Standard Oil Bulk Terminal Facility No. 1001348. May 25, 2010. SAIC, 2006. Site Notes. Former Standard Oil Bulk Terminal Facility No. 1001348. Updated June 30, 2006. US Climate Data 2013. Climate Data, Pullman Washington. August, 2013 Hart Crowser, 1989. Observation of Removal of Bulk Supply Lines, Chevron Tacoma Bulk Plant. May 16, 1989.

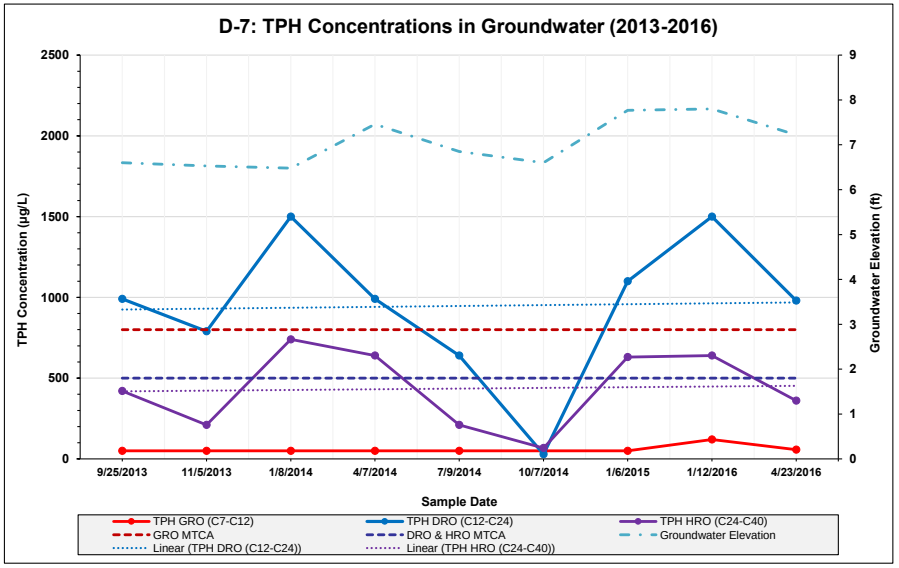
Appendix H

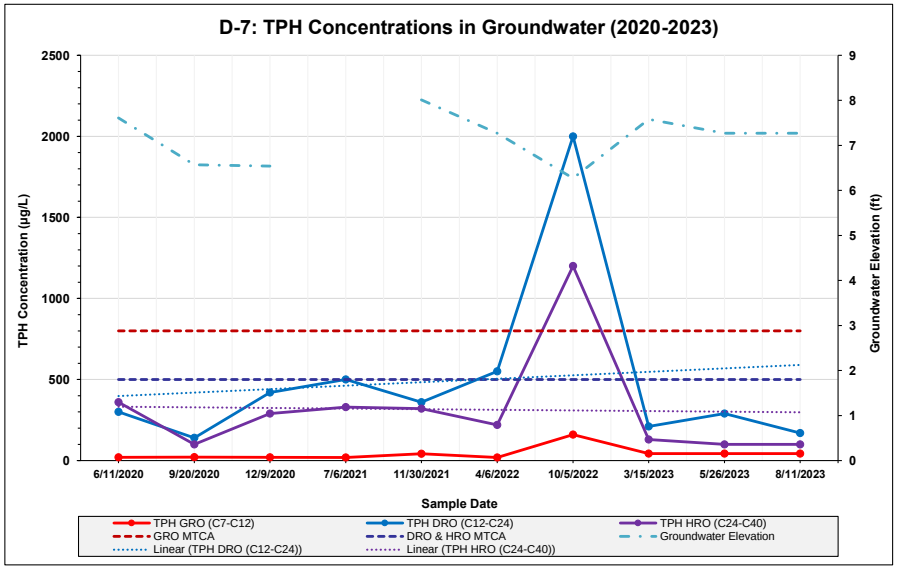
Groundwater Trend Graphs

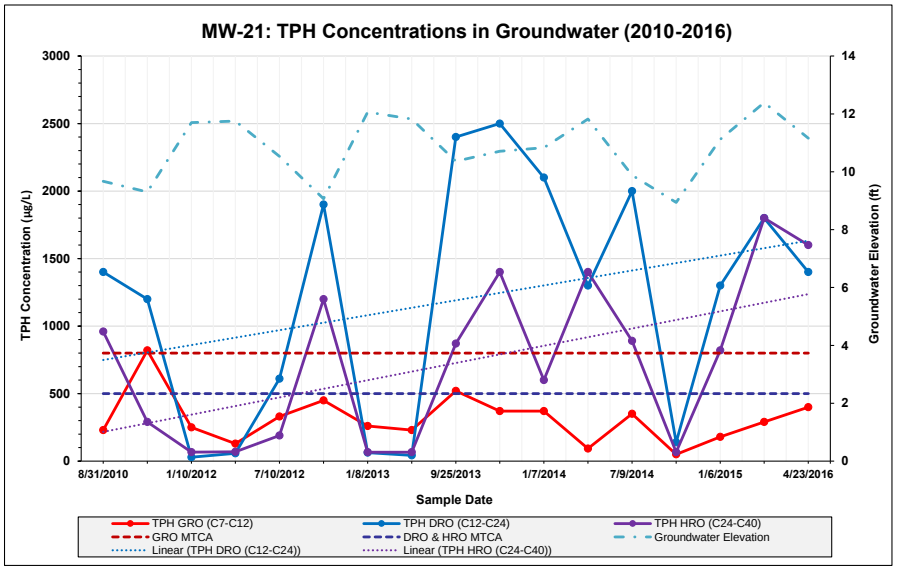
2023 Trend Graphs

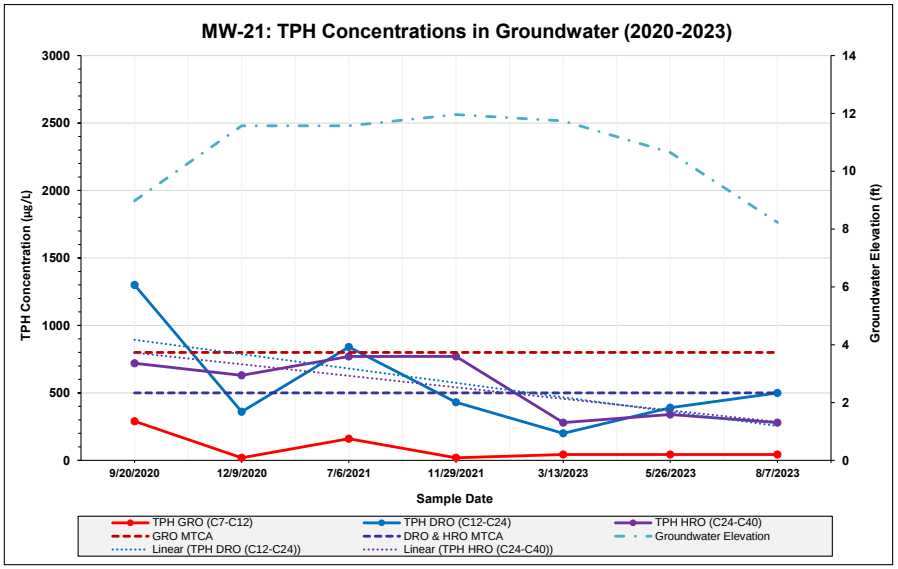

MW-10: TPH Concentrations in Groundwater (2012-2015)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
1/10/2012 4/11/2012 7/10/2012 10/8/2012 1/8/2013 4/9/2013 9/25/2013 11/5/2013 1/7/2014 4/7/2014 7/7/2014 10/7/2014 1/6/2015
TPH-GRO (C7-C12)
TPH-DRO (C12-C24)
TPH-HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH-DRO (C12-C24))

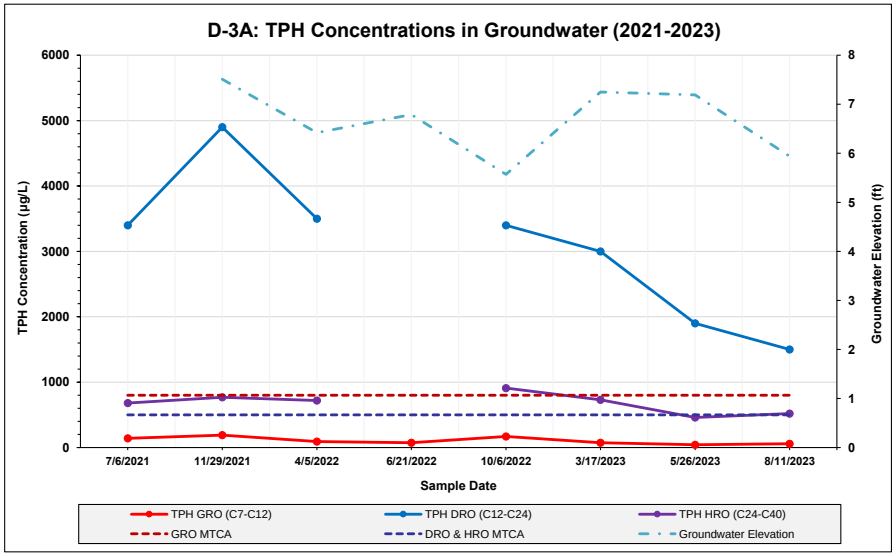

MW-10: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
6/11/2020 12/9/2020 7/7/2021 11/30/2021 4/5/2022 6/20/2022 10/5/2022 3/13/2023 5/22/2023
TPH-GRO (C7-C12)
TPH-DRO (C12-C24)
TPH-HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH-DRO (C12-C24))

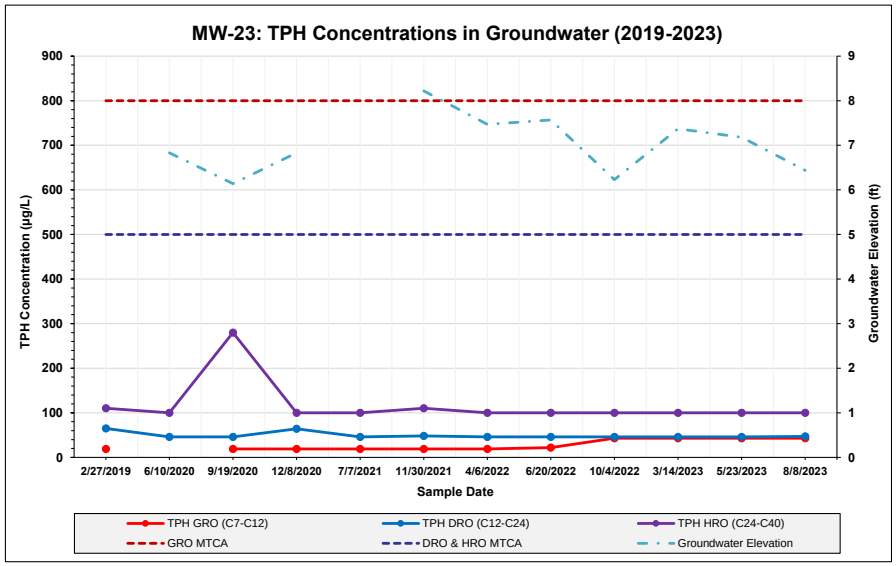

D-7: TPH Concentrations in Groundwater (2013-2016)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
9/25/2013 11/5/2013 1/8/2014 4/7/2014 7/9/2014 10/7/2014 1/6/2015 1/12/2016 4/23/2016
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))
Linear (TPH HRO (C24-C40))

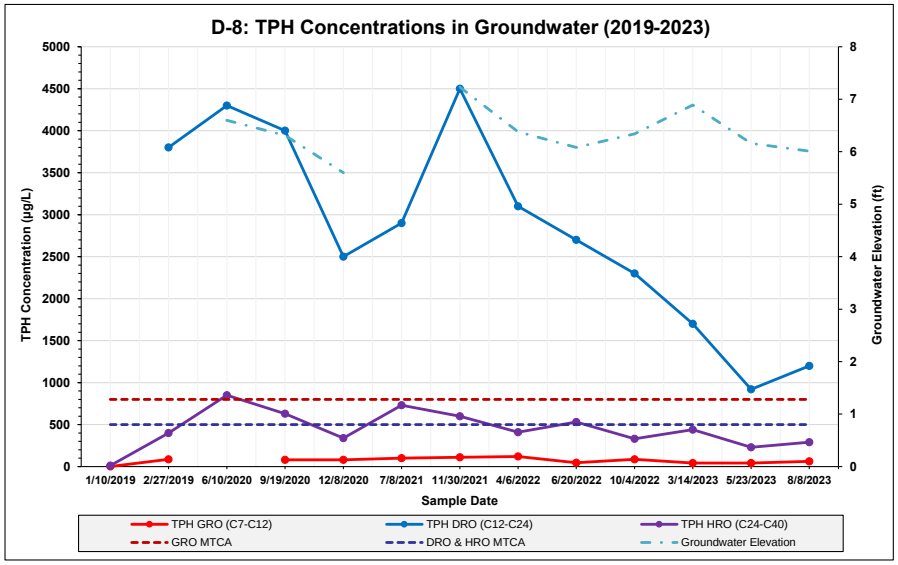

D-7: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
6/11/2020 9/20/2020 12/9/2020 7/6/2021 11/30/2021 4/6/2022 10/5/2022 3/15/2023 5/26/2023 8/11/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))
Linear (TPH HRO (C24-C40))

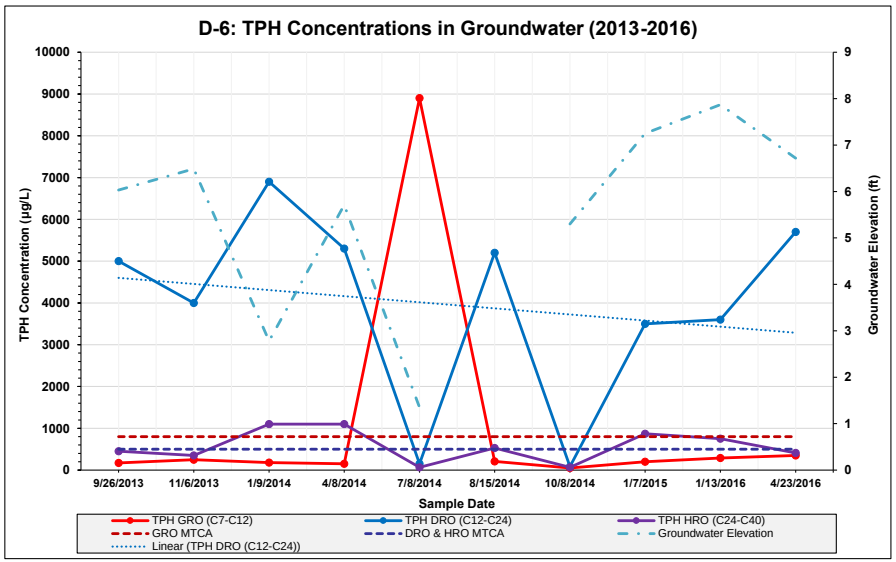

MW-21: TPH Concentrations in Groundwater (2010-2016)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
8/31/2010
1/10/2012
7/10/2012
1/8/2013
9/25/2013
1/7/2014
7/9/2014
1/6/2015
4/23/2016
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))
Linear (TPH HRO (C24-C40))

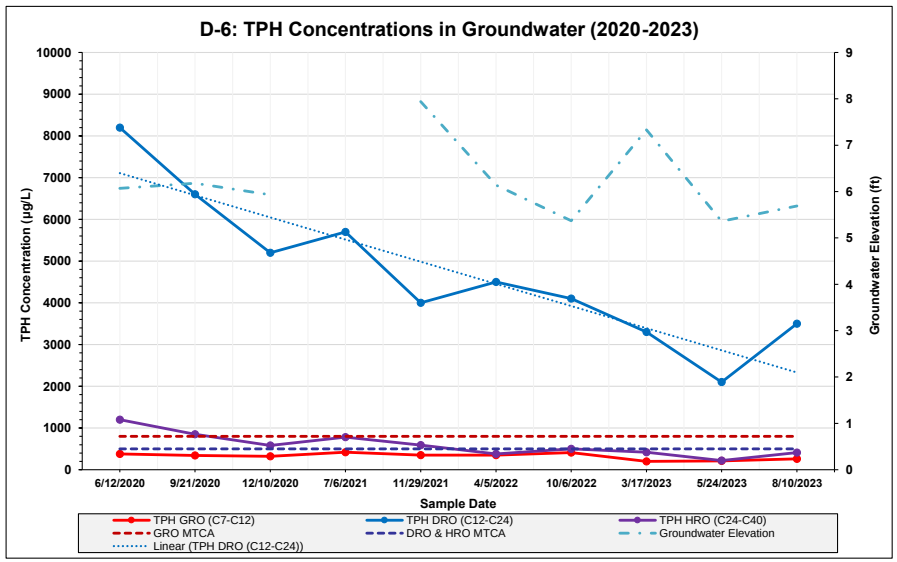

MW-21: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
9/20/2020
12/9/2020
7/6/2021
11/29/2021
3/13/2023
5/26/2023
8/7/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))
Linear (TPH HRO (C24-C40))

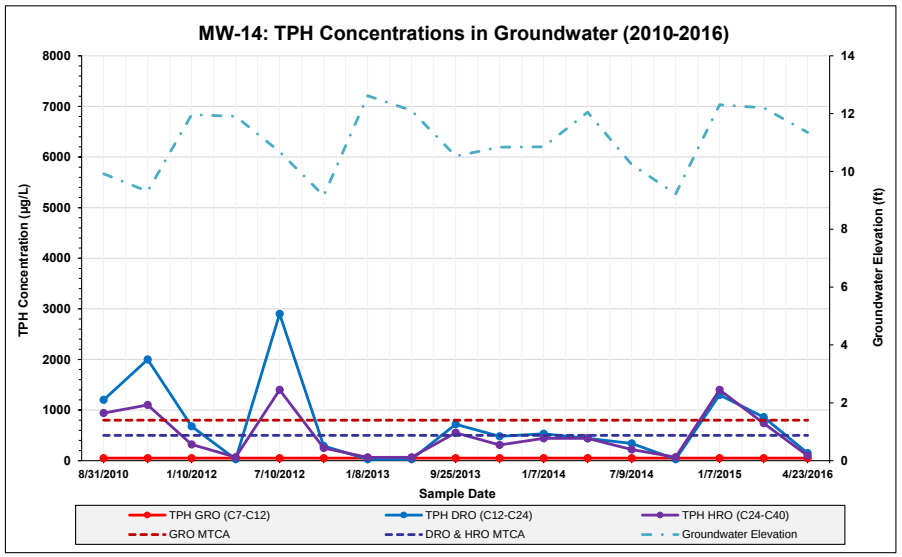

D-3A: TPH Concentrations in Groundwater (2021-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
7/6/2021
11/29/2021
4/5/2022
6/21/2022
10/6/2022
3/17/2023
5/26/2023
8/11/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation

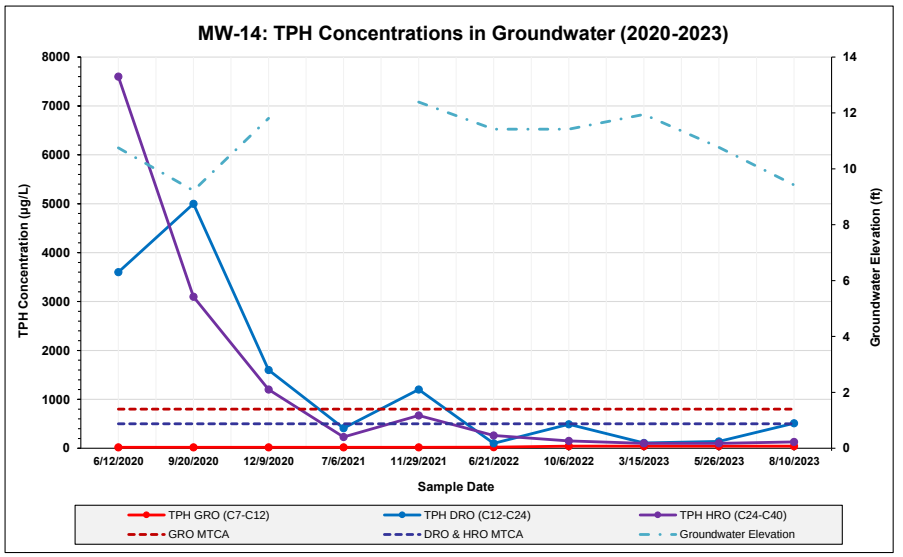

MW-23: TPH Concentrations in Groundwater (2019-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
2/27/2019
6/10/2020
9/19/2020
12/8/2020
7/7/2021
11/30/2021
4/6/2022
6/20/2022
10/4/2022
3/14/2023
5/23/2023
8/8/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation

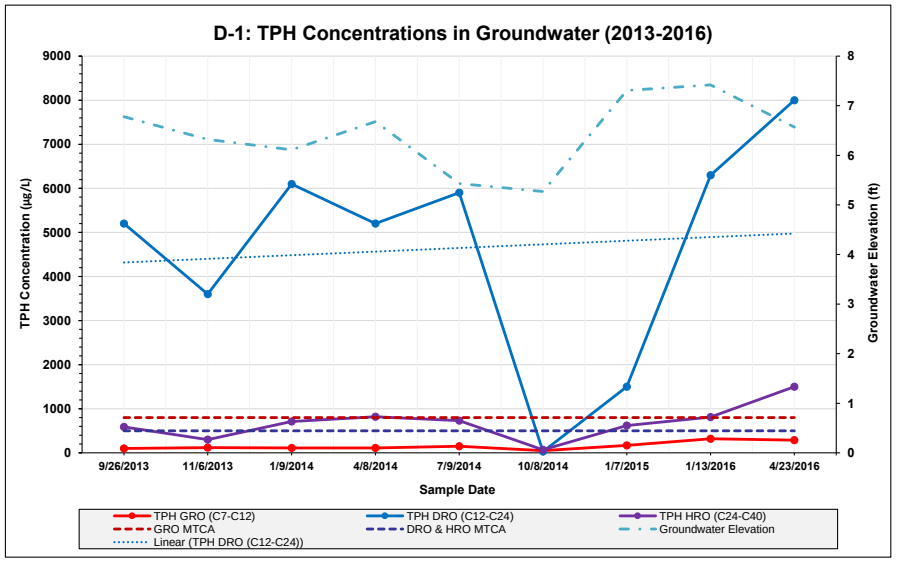

D-8: TPH Concentrations in Groundwater (2019-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
1/10/2019
2/27/2019
6/10/2020
9/19/2020
12/8/2020
7/8/2021
11/30/2021
4/6/2022
6/20/2022
10/4/2022
3/14/2023
5/23/2023
8/8/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation

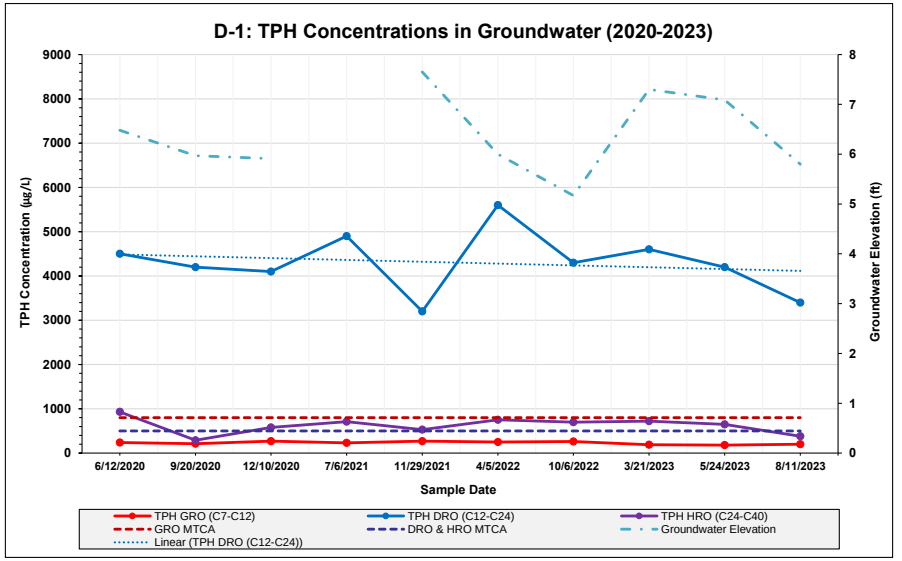

D-6: TPH Concentrations in Groundwater (2013-2016)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
9/26/2013
11/6/2013
1/9/2014
4/8/2014
7/8/2014
8/15/2014
10/8/2014
1/7/2015
1/13/2016
4/23/2016
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))

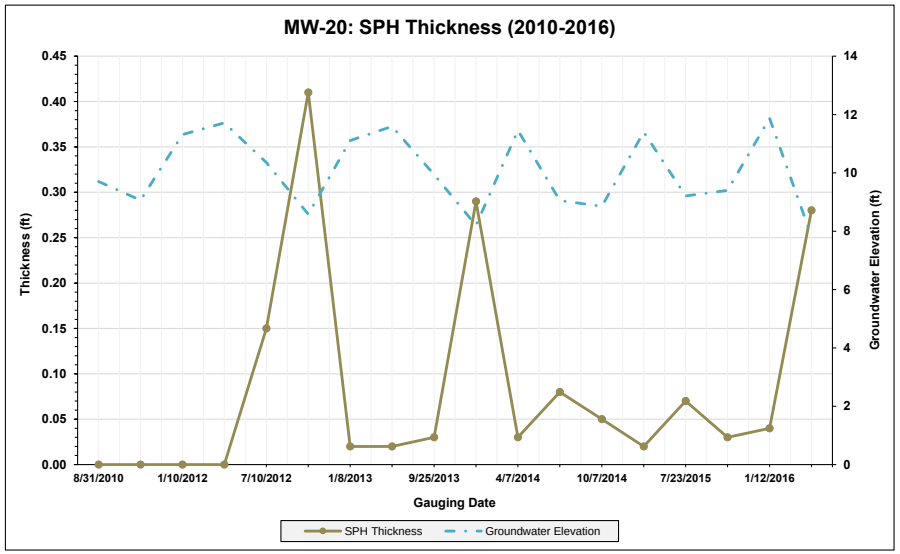

D-6: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
6/12/2020
9/21/2020
12/10/2020
7/6/2021
11/29/2021
4/5/2022
10/6/2022
3/17/2023
5/24/2023
8/10/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))

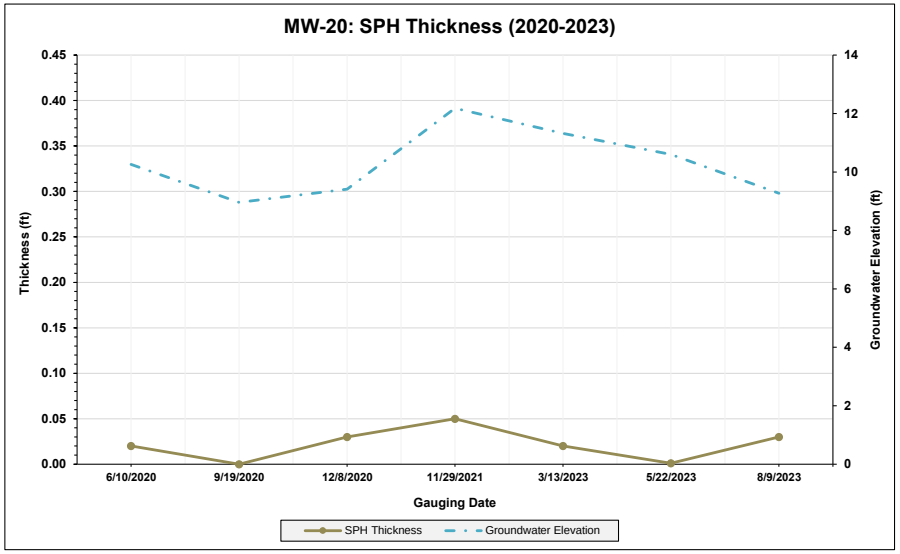

MW-14: TPH Concentrations in Groundwater (2010-2016)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
8/31/2010
1/10/2012
7/10/2012
1/8/2013
9/25/2013
1/7/2014
7/9/2014
1/7/2015
4/23/2016
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation

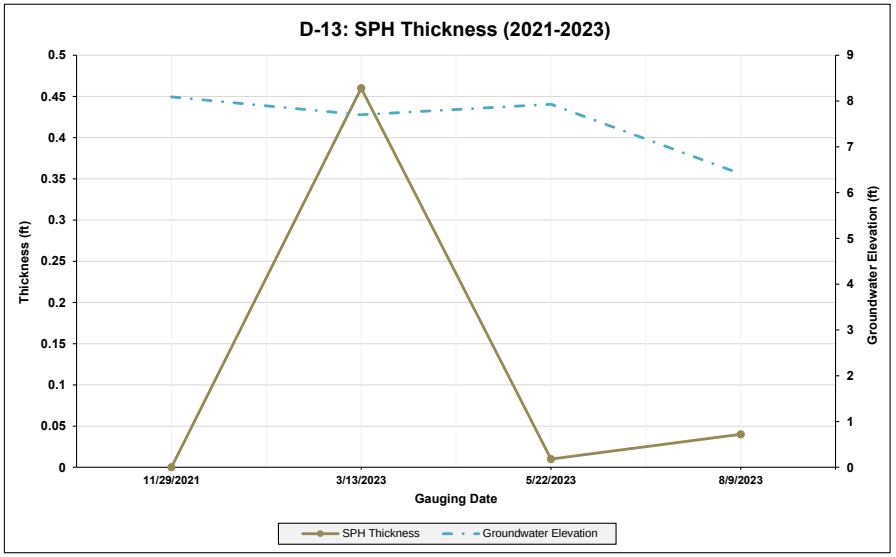

MW-14: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
6/12/2020
9/20/2020
12/9/2020
7/6/2021
11/29/2021
6/21/2022
10/6/2022
3/15/2023
5/26/2023
8/10/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation


D-1: TPH Concentrations in Groundwater (2013-2016)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
9/26/2013
11/6/2013
1/9/2014
4/8/2014
7/9/2014
10/8/2014
1/7/2015
1/13/2016
4/23/2016
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))


D-1: TPH Concentrations in Groundwater (2020-2023)
TPH Concentration (µg/L)
Groundwater Elevation (ft)
Sample Date
6/12/2020
9/20/2020
12/10/2020
7/6/2021
11/29/2021
4/5/2022
10/6/2022
3/21/2023
5/24/2023
8/11/2023
TPH GRO (C7-C12)
TPH DRO (C12-C24)
TPH HRO (C24-C40)
GRO MTCA
DRO & HRO MTCA
Groundwater Elevation
Linear (TPH DRO (C12-C24))


MW-20: SPH Thickness (2010-2016)
Thickness (ft)
Groundwater Elevation (ft)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
14
12
10
8
6
4
2
0
8/31/2010
1/10/2012
7/10/2012
1/8/2013
9/25/2013
4/7/2014
10/7/2014
7/23/2015
1/12/2016
Gauging Date
SPH Thickness
Groundwater Elevation


MW-20: SPH Thickness (2020-2023)
Thickness (ft)
Groundwater Elevation (ft)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
14
12
10
8
6
4
2
0
6/10/2020
9/19/2020
12/8/2020
11/29/2021
3/13/2023
5/22/2023
8/9/2023
Gauging Date
SPH Thickness
Groundwater Elevation


D-13: SPH Thickness (2021-2023)
Thickness (ft)
Groundwater Elevation (ft)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
9
8
7
6
5
4
3
2
1
0
11/29/2021
3/13/2023
5/22/2023
8/9/2023
Gauging Date
SPH Thickness
Groundwater Elevation

Appendix I

2023 Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Former Chevron Bulk Terminal	
Facility/Site Address: 1656 East J Street, Tacoma, Washington, 98421	
Facility/Site No: 1001348	VCP Project No.:

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Lindsay Zelko			Title: Risk Assessor
Organization: AECOM			
Mailing address: 2020 L Street, Suite 300			
City: Sacramento		State: CA	Zip code: 95811
Phone: 916-969-8453	Fax: 1-916-720-0311	E-mail: lindsay.zelko@aecom.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2**.*

☒ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☒ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☒ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b) (**Table 4**).

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

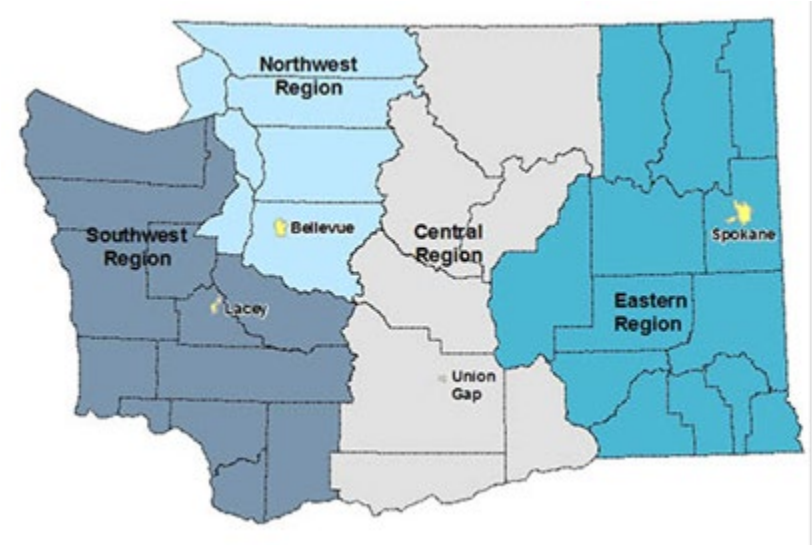
5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.

Appendix J

Previous Cleanup Level Calculations

2010 Cleanup Level Calculations

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 08/26/10
Site Name: 1001348 1656 East J Street, Tacoma, WA
Sample Name: SB-4-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	1.837	0.09%
AL_EC >6-8	1.87	0.10%
AL_EC >8-10	14.5	0.74%
AL_EC >10-12	72	3.69%
AL_EC >12-16	720	36.94%
AL_EC >16-21	510	26.17%
AL_EC >21-34	290	14.88%
AR_EC >8-10	9.434	0.48%
AR_EC >10-12	1.96	0.10%
AR_EC >12-16	57	2.92%
AR_EC >16-21	159.81	8.20%
AR_EC >21-34	109.97457	5.64%
Benzene	0.0165	0.00%
Toluene	0.033	0.00%
Ethylbenzene	0.033	0.00%
Total Xylenes	0.033	0.00%
Naphthalene	0.14	0.01%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene	0.19	0.01%
n-Hexane	0.033	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.0053	0.00%
Benzo(b)fluoranthene	0.004	0.00%
Benzo(k)fluoranthene	0.002	0.00%
Benzo(a)pyrene	0.0036	0.00%
Chrysene	0.0097	0.00%
Dibenz(a,h)anthracene	0.000415	0.00%
Indeno(1,2,3-cd)pyrene	0.000415	0.00%
Sum	1948.8895	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
1) highest concentration for
2) half detection limits used for benzene, ethylbenzene, toluene, and total xylenes (8260 method) , n-hexane, Dibenz(a,h)anthracene, indeno (1,2,3-cd)pyrene, and AL_EC>5-6, AL_EC>6-8
3) MTBE, EDB, and EDC never detected on the site so a value of 0 was entered
4) double counting for EC fractions avoided
5) dilution factor of 1 for saturated zone soil

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	1	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 500 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 8/26/2010
Site Name: 1001348 1656 East J Street, Tacoma, WA
Sample Name: SB-4-6
Measured Soil TPH Concentration, mg/kg: **1,948.890**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	3,010	4.83E-08	6.48E-01	Pass
	Method C	37,066	1.19E-08	5.26E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	125	3.13E-05	2.34E+00	Fail
	Target TPH GW Conc. @ 500 ug/L	102	NA	NA	Fail

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**3,009.69**	**37,065.96**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	3.01E+03	7.45E-08	1.00E+00	YES	3.71E+04	2.26E-07	1.00E+00
Total Risk=1E-5	*NO*	4.04E+05	1.00E-05	1.34E+02	*NO*	1.64E+06	1.00E-05	4.43E+01
Risk of Benzene= 1E-6	*NO*	2.15E+06	5.31E-05	7.13E+02	NA			
Risk of cPAHs mixture= 1E-6	*NO*	4.11E+04	1.02E-06	1.37E+01				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**HI=1**
Protective Ground Water Concentration, ug/L	**545.42**
Protective Soil Concentration, mg/kg	**124.52**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	5.45E+02	4.35E-06	1.00E+00	1.25E+02
Total Risk = 1E-5	*NO*	7.64E+02	1.00E-05	1.46E+00	3.22E+02
Total Risk = 1E-6	YES	2.44E+02	1.00E-06	4.40E-01	2.68E+01
Risk of cPAHs mixture= 1E-5	*NO*	1.14E+03	5.31E-05	2.99E+00	100% NAPL
Benzene MCL = 5 ug/L	*NO*	6.40E+02	6.29E-06	1.19E+00	1.87E+02
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 71000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	5.00E+02	3.62E-06	9.12E-01	**1.02E+02**

2011 Cleanup Level Calculations

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 01/14/11
Site Name: 1001348 1656 East J Street, Tacoma, WA
Sample Name: SB-17-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	1.72	0.06%
AL_EC >6-8	54.5	1.80%
AL_EC >8-10	101	3.34%
AL_EC >10-12	44	1.45%
AL_EC >12-16	420	13.88%
AL_EC >16-21	510	16.86%
AL_EC >21-34	1100	36.35%
AR_EC >8-10	75.22	2.49%
AR_EC >10-12	3.39	0.11%
AR_EC >12-16	42.7	1.41%
AR_EC >16-21	210	6.94%
AR_EC >21-34	459.5367	15.19%
Benzene	0.049	0.00%
Toluene	0.096	0.00%
Ethylbenzene	0.14	0.00%
Total Xylenes	0.44	0.01%
Naphthalene	0.21	0.01%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene	2.3	0.08%
n-Hexane	0.03	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.089	0.00%
Benzo(b)fluoranthene	0.083	0.00%
Benzo(k)fluoranthene	0.038	0.00%
Benzo(a)pyrene	0.054	0.00%
Chrysene	0.19	0.01%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0.0093	0.00%
Sum	3025.795	100.00%

Notes for Data Entry | Set Default Hydrogeology
Clear All Soil Concentration Data Entry Cells
Restore All Soil Concentration Data cleared

REMARK:
1) Highest concentration for benzene, ethylbenzene, toluene, and total xylenes (8260 method) entered
2) Half detection limits used for n-hexane, and AL_EC>5-6,
3) MTBE, EDB, EDC, 1-Methyl Naphthalene, or Dibenz(a,h)anthracene were never detected on the site so a value of 0 was entered
4) Double counting for EC fractions avoided
5) Dilution factor of 1 for saturated zone soil

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	1	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 1/14/2011
Site Name: 1001348 1656 East J Street, Tacoma, WA
Sample Name: SB-17-6
Measured Soil TPH Concentration, mg/kg: **3,025.795**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	4,030	7.53E-07	7.01E-01	Pass
	Method C	54,473	1.87E-07	5.55E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	29	7.45E-05	7.54E+00	Fail
	Target TPH GW Conc. @ 500 ug/L	25	NA	NA	Fail

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through -7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**4,030.44**	**54,473.36**
Most Stringent Criterion	**Risk of cPAHs mixture= 1E-6**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	*NO*	4.32E+03	1.08E-06	1.00E+00	YES	5.45E+04	3.36E-06	1.00E+00
Total Risk=1E-5	*NO*	4.02E+04	1.00E-05	9.30E+00	*NO*	1.62E+05	1.00E-05	2.97E+00
Risk of Benzene= 1E-6	*NO*	1.12E+06	2.79E-04	2.60E+02	NA			
Risk of cPAHs mixture= 1E-6	YES	4.03E+03	1.00E-06	9.33E-01				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**HI=1**
Protective Ground Water Concentration, ug/L	**563.77**
Protective Soil Concentration, mg/kg	**28.76**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	5.64E+02	2.06E-06	1.00E+00	2.88E+01
Total Risk = 1E-5	*NO*	1.77E+03	1.00E-05	3.06E+00	1.50E+02
Total Risk = 1E-6	YES	3.06E+02	1.00E-06	5.50E-01	1.38E+01
Risk of cPAHs mixture= 1E-5	*NO*	4.10E+03	1.10E-04	8.73E+00	100% NAPL
Benzene MCL = 5 ug/L	*NO*	1.31E+03	6.29E-06	2.28E+00	9.14E+01
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 74000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	5.00E+02	1.78E-06	8.90E-01	**2.48E+01**

A2. 1C Worksheet for Calculating Soil Cleanup Levels for Protection of Human Health: (Soil Direct Contact Pathway)
Method C: Industrial Land Use (WAC 173-340-745)

Date: 1/14/2011
Site Name: 1001348 1656 East J Street, Tacoma, WA
Sample Name: SB-17-6

Chemical of Concern or EC Group	Current Condition				Adjusted Condition			
	Measured Soil Conc @dry basis	HQ	RISK	Pass or Fail?	Soil Conc being tested	HQ	RISK	Pass or Fail?
	mg/kg	unitless	unitless		mg/kg	unitless	unitless	
Petroleum EC Fraction								
AL_EC >5-6	1.72	7.0E-07			3.10E+01	1.25E-05		
AL_EC >6-8	54.5	2.2E-05			9.81E+02	3.97E-04		
AL_EC >8-10	101	2.31E-03			1.82E+03	4.17E-02		
AL_EC >10-12	44	1.01E-03			7.92E+02	1.82E-02		
AL_EC >12-16	420	2.10E-02			7.56E+03	3.78E-01		
AL_EC >16-21	510	3.83E-04			9.18E+03	6.89E-03		
AL_EC >21-34	1100	8.25E-04			1.98E+04	1.49E-02		
AR_EC >8-10	75.22	5.17E-04			1.35E+03	9.31E-03		
AR_EC >10-12	3.39	1.17E-04			6.10E+01	2.10E-03		
AR_EC >12-16	42.7	1.28E-03			7.69E+02	2.31E-02		
AR_EC >16-21	210	1.05E-02			3.78E+03	1.89E-01		
AR_EC >21-34	459.5367	1.72E-02			8.27E+03	3.10E-01		
Benzene	0.049	6.16E-06	3.61E-10		8.82E-01	1.11E-04	6.50E-09	
Toluene	0.096	7.80E-07			1.73E+00	1.40E-05		
Ethylbenzene	0.14	9.28E-07			2.52E+00	1.67E-05		
Total Xylenes	0.44	1.47E-06			7.92E+00	2.64E-05		
Naphthalene	0.21	1.29E-05			3.78E+00	2.33E-04		
1-Methyl Naphthalene	0				0.00E+00	0.00E+00		
2-Methyl Naphthalene	2.3	3.23E-04			4.14E+01	5.82E-03		
n-Hexane	0.03	3.44E-07			5.40E-01	6.19E-06		
MTBE	0				0.00E+00			
Ethylene Dibromide (EDB)	0		0.00E+00		0.00E+00	0.00E+00	0.00E+00	
1,2 Dichloroethane (EDC)	0		0.00E+00		0.00E+00	0.00E+00	0.00E+00	
Benzo(a)anthracene	0.089		2.13E-08		1.60E+00		3.84E-07	
Benzo(b)fluoranthene	0.083		1.99E-08		1.49E+00		3.58E-07	
Benzo(k)fluoranthene	0.038		9.10E-09		6.84E-01		1.64E-07	
Benzo(a)pyrene	0.054		1.29E-07		9.72E-01		2.33E-06	
Chrysene	0.19		4.55E-09		3.42E+00		8.19E-08	
Dibenz(a,h)anthracene	0		0.00E+00		0.00E+00		0.00E+00	
Indeno(1,2,3-cd)pyrene	0.0093		2.23E-09		1.67E-01		4.01E-08	
Sum	**3025.795**	5.55E-02	1.87E-07		5.45E+04	1.00E+00	3.36E-06	

TEST CURRENT CONDITION

Measured TPH Soil Conc, mg/kg= 3025.795
HI= 5.555E-02
RISK= 1.868E-07
Pass or Fail? Pass
Check Residual Saturation (WAC340-747(10))

CALCULATE PROTECTIVE CONDITION

This tool allows the user to calculate protective TPH soil concentration based on various soil quality criteria. The Workbook uses the same composition ratio as for the measured data.

Calculate Protective

Selected Criterion:
Most Stringent?

Protctive TPH Soil Conc, mg/kg =
HI =
RISK =

TEST ADJUSTED CONDITION

This tool allows the user to test whether a particular TPH soil concentration is protective of human health. The Workbook uses the same composition ratio as for the measured data.

Test Adjusted TPH Soil Conc

Tested TPH Soil Conc, mg/kg=
HI=
RISK=
Pass or Fail?

2014 Cleanup Level Calculations

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: B-5-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.05%
AL_EC >6-8	146	1.49%
AL_EC >8-10	1030	10.51%
AL_EC >10-12	1100	11.23%
AL_EC >12-16	3600	36.75%
AL_EC >16-21	1800	18.37%
AL_EC >21-34	140	1.43%
AR_EC >8-10	566.8	5.79%
AR_EC >10-12	74.5	0.76%
AR_EC >12-16	410	4.19%
AR_EC >16-21	810	8.27%
AR_EC >21-34	81.9	0.84%
Benzene	0.1	0.00%
Toluene	0.668	0.01%
Ethylbenzene	21.5	0.22%
Total Xylenes	7.62	0.08%
Naphthalene	2.5	0.03%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane		0.00%
MTBE	0.1	0.00%
Ethylene Dibromide (EDB)	0.025	0.00%
1,2 Dichloroethane (EDC)	0.025	0.00%
Benzo(a)anthracene	0.0165	0.00%
Benzo(b)fluoranthene	0.0165	0.00%
Benzo(k)fluoranthene	0.0165	0.00%
Benzo(a)pyrene	0.0165	0.00%
Chrysene	0.048	0.00%
Dibenz(a,h)anthracene	0.0165	0.00%
Indeno(1,2,3-cd)pyrene	0.0165	0.00%
Sum	9796.885	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) AL_EC>5-6 was ND, 1/2 MDL used for calculation.
(2) Benzene was ND, 1/2 MDL used for calculation. Benzene MDL from VPH analysis.
(3) Ethylbenzene, toluene and xylenes concentrations from VPH analysis.
(4) MTBE was ND, 1/2 MDL used for calculation, MTBE MDL from VPH analysis.
(5) EDB and EDC were ND, ½ MDL used for calculation
(6) Benzo(a)anthracene, benzofluoranthenes, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene were ND, 1/2 MDL used for calculation.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: B-5-6
Measured Soil TPH Concentration, mg/kg: **9,796.885**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,485	2.55E-06	3.94E+00	Fail
	Method C	33,436	4.51E-07	2.93E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	16	7.24E-04	5.78E-01	Fail
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,484.71**	**33,436.50**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.48E+03	6.47E-07	1.00E+00	YES	3.34E+04	1.54E-06	1.00E+00
Total Risk=1E-5	*NO*	3.84E+04	1.00E-05	1.55E+01	*NO*	2.17E+05	1.00E-05	6.49E+00
Risk of Benzene= 1E-6	*NO*	1.78E+06	4.63E-04	7.16E+02	NA			
Risk of cPAHs mixture= 1E-6	*NO*	4.03E+04	1.05E-05	1.62E+01				
EDB	*NO*	4.26E+03	1.11E-06	1.71E+00				
EDC	*NO*	3.98E+06	1.04E-03	1.60E+03				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**18.50**
Protective Soil Concentration, mg/kg	**16.04**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	4.13E+02	8.01E-04	6.02E-01	100% NAPL
Total Risk = 1E-5	YES	1.85E+01	1.00E-05	3.06E-02	1.60E+01
Total Risk = 1E-6	YES	1.86E+00	1.00E-06	3.07E-03	1.60E+00
Risk of cPAHs mixture= 1E-5	*NO*	4.13E+02	8.01E-04	6.02E-01	100% NAPL
Benzene MCL = 5 ug/L	*NO*	4.13E+02	8.01E-04	6.02E-01	100% NAPL
MTBE = 20 ug/L	*NO*	3.88E+02	7.53E-04	5.87E-01	1.48E+04

Note: 100% NAPL is 64000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	4.13E+02	8.01E-04	6.02E-01	**100% NAPL**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Based on Protection of Potable Ground Water

WAC 173-340-740 and 747

Date: 12/31/2014

Site Name: 11-May-39

Sample Name: B-5-6

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	5		3.28E+01	2.04E+00	1.50E-04		
AL_EC >6-8	146		9.58E+02	7.25E+00	5.33E-04		
AL_EC >8-10	1030		6.76E+03	3.14E+00	1.31E-02		
AL_EC >10-12	1100		7.22E+03	2.16E-01	8.98E-04		
AL_EC >12-16	3600		2.36E+04	1.26E-02	2.63E-05		
AL_EC >16-21	1800		1.18E+04	7.99E-06	2.50E-10		
AL_EC >21-34	140		9.18E+02	4.84E-12	1.51E-16		
AR_EC >8-10	566.8		3.72E+03	2.81E+02	3.51E-01		
AR_EC >10-12	74.5		4.89E+02	1.32E+01	8.22E-02		
AR_EC >12-16	410		2.69E+03	1.46E+01	1.82E-02		
AR_EC >16-21	810		5.31E+03	2.00E+00	4.18E-03		
AR_EC >21-34	81.9		5.37E+02	2.08E-03	3.25E-06		
Benzene	0.1	5	6.56E-01	2.02E+00	6.31E-02	2.54E-06	
Toluene	0.668	1000	4.38E+00	3.49E+00	5.45E-03		
Ethylbenzene	21.5	700	1.41E+02	3.15E+01	3.94E-02		
Total Xylenes	7.62	1000	5.00E+01	1.13E+01	7.06E-03		
Naphthalene	2.5	160	1.64E+01	5.57E-01	3.48E-03		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	0		0.00E+00	0.00E+00	0.00E+00		
MTBE	0.1	20	6.56E-01	3.81E+01	0.00E+00		***Fail***
Ethylene Dibromide (EDB)	0.025	0.01	1.64E-01	4.09E-01	5.68E-03	7.95E-04	***Fail***
1,2 Dichloroethane (EDC)	0.025	5	1.64E-01	1.84E+00	7.68E-03	3.83E-06	
Benzo(a)anthracene	0.0165	for	1.08E-01	6.27E-07		5.23E-12	for
Benzo(b)fluoranthene	0.0165	all	1.08E-01	9.05E-08		7.55E-13	all
Benzo(k)fluoranthene	0.0165	cPAHs	1.08E-01	4.83E-08		4.03E-13	cPAHs
Benzo(a)pyrene	0.0165	Risk=	1.08E-01	9.77E-08		8.15E-12	
Chrysene	0.048	1E-05	3.15E-01	3.10E-07		2.59E-13	
Dibenz(a,h)anthracene	0.0165		1.08E-01	1.36E-07		1.14E-12	Σ Risk=
Indeno(1,2,3-cd)pyrene	0.0165		1.08E-01	1.21E-09		1.01E-14	1.59E-11
Sum	9796.885		6.43E+04	4.13E+02	6.02E-01	8.01E-04	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION
OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality

Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **100% NAPL**

Protective TPH GW Conc, ug/L = 4.13E+02

RISK @ Well = NA

HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	180.5
Equilibrated Weighted Average MW of NAPL, g/mol:	180.6
Initial Weighted Average Density of NAPL, kg/L:	0.803
Volumetric NAPL Content, Θ_{NAPL} :	1.2E-01
NAPL Saturation (%), Θ_{NAPL}/n :	28.55%
100% NAPL, mg/kg	64261.4

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.00% in Solid: 0.09%

Total Mass distributed in Air Phase: 0.00% in NAPL: 99.91%

Please Check Soil Residual Saturation TPH Levels: Refer to Table 747-5!

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: B-9-4

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	1.25	0.05%
AL_EC >6-8	1.25	0.05%
AL_EC >8-10	23.2	0.92%
AL_EC >10-12	100	3.97%
AL_EC >12-16	1100	43.70%
AL_EC >16-21	800	31.78%
AL_EC >21-34	110	4.37%
AR_EC >8-10	17.397	0.69%
AR_EC >10-12	0.999	0.04%
AR_EC >12-16	22	0.87%
AR_EC >16-21	270	10.73%
AR_EC >21-34	70.9669	2.82%
Benzene	0.001	0.00%
Toluene	0.002	0.00%
Ethylbenzene	0.001	0.00%
Total Xylenes	0.0562	0.00%
Naphthalene	0.001	0.00%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane		0.00%
MTBE	0.025	0.00%
Ethylene Dibromide (EDB)	0.0005	0.00%
1,2 Dichloroethane (EDC)	0.0005	0.00%
Benzo(a)anthracene	0.00335	0.00%
Benzo(b)fluoranthene	0.00335	0.00%
Benzo(k)fluoranthene	0.00335	0.00%
Benzo(a)pyrene	0.00335	0.00%
Chrysene	0.013	0.00%
Dibenz(a,h)anthracene	0.00335	0.00%
Indeno(1,2,3-cd)pyrene	0.00335	0.00%
Sum	2517.1832	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) AL_EC>5-6, AL_EC>6-8, and AR_EC>10-12 were ND, 1/2 MDL used for calculation.
(2) Benzene, ethylbenzene, and toluene concentrations from 8260B analysis.
(3) Xylenes concentration from VPH analysis.
(4) EDB and EDC were ND, 1/2 MDL used for calculation.
(5) MTBE was ND, 1/2 MDL used for calculation, MTBE MDL from VPH analysis.
(6) Benzo(a)anthracene, benzofluoranthenes, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene were ND, 1/2 MDL used for calculation.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: B-9-4
Measured Soil TPH Concentration, mg/kg: **2,517.183**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,711	9.58E-08	9.29E-01	Pass
	Method C	33,348	2.02E-08	7.55E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	234	4.73E-05	6.17E-02	Fail
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,710.52**	**33,347.91**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.71E+03	1.03E-07	1.00E+00	YES	3.33E+04	2.67E-07	1.00E+00
Total Risk=1E-5	*NO*	2.63E+05	1.00E-05	9.69E+01	*NO*	1.25E+06	1.00E-05	3.75E+01
Risk of Benzene= 1E-6	*NO*	4.57E+07	1.74E-03	1.69E+04	NA			
Risk of cPAHs mixture= 1E-6	*NO*	5.06E+04	1.93E-06	1.87E+01				
EDB	*NO*	5.47E+04	2.08E-06	2.02E+01				
EDC	*NO*	5.11E+07	1.95E-03	1.89E+04				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**19.98**
Protective Soil Concentration, mg/kg	**233.83**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	9.43E+01	7.46E-05	7.32E-02	100% NAPL
Total Risk = 1E-5	YES	2.00E+01	1.00E-05	2.90E-02	2.34E+02
Total Risk = 1E-6	YES	4.44E+00	1.00E-06	7.74E-03	2.07E+01
Risk of cPAHs mixture= 1E-5	*NO*	9.43E+01	7.46E-05	7.32E-02	100% NAPL
Benzene MCL = 5 ug/L	*NO*	9.43E+01	7.46E-05	7.32E-02	100% NAPL
MTBE = 20 ug/L	*NO*	7.04E+01	6.87E-05	7.11E-02	1.40E+04

Note: 100% NAPL is 65000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	9.43E+01	7.46E-05	7.32E-02	**100% NAPL**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Based on Protection of Potable Ground Water

WAC 173-340-740 and 747

Date: 12/31/2014

Site Name: 11-May-39

Sample Name: B-9-4

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	1.25		3.23E+01	2.38E+00	1.75E-04		
AL_EC >6-8	1.25		3.23E+01	2.91E-01	2.14E-05		
AL_EC >8-10	23.2		6.00E+02	3.31E-01	1.38E-03		
AL_EC >10-12	100		2.59E+03	9.18E-02	3.82E-04		
AL_EC >12-16	1100		2.85E+04	1.81E-02	3.76E-05		
AL_EC >16-21	800		2.07E+04	1.66E-05	5.20E-10		
AL_EC >21-34	110		2.85E+03	1.78E-11	5.57E-16		
AR_EC >8-10	17.397		4.50E+02	4.04E+01	5.04E-02		
AR_EC >10-12	0.999		2.58E+01	8.26E-01	5.16E-03		
AR_EC >12-16	22		5.69E+02	3.67E+00	4.59E-03		
AR_EC >16-21	270		6.98E+03	3.13E+00	6.52E-03		
AR_EC >21-34	70.9669		1.84E+03	8.43E-03	1.32E-05		
Benzene	0.001	5	2.59E-02	9.41E-02	2.94E-03	1.18E-07	
Toluene	0.002	1000	5.17E-02	4.88E-02	7.63E-05		
Ethylbenzene	0.001	700	2.59E-02	6.86E-03	8.57E-06		
Total Xylenes	0.0562	1000	1.45E+00	3.90E-01	2.44E-04		
Naphthalene	0.001	160	2.59E-02	1.04E-03	6.52E-06		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	0		0.00E+00	0.00E+00	0.00E+00		
MTBE	0.025	20	6.47E-01	4.25E+01	0.00E+00		***Fail***
Ethylene Dibromide (EDB)	0.0005	0.01	1.29E-02	3.82E-02	5.30E-04	7.42E-05	***Fail***
1,2 Dichloroethane (EDC)	0.0005	5	1.29E-02	1.70E-01	7.10E-04	3.54E-07	
Benzo(a)anthracene	0.00335	for	8.67E-02	5.96E-07		4.97E-12	for
Benzo(b)fluoranthene	0.00335	all	8.67E-02	8.61E-08		7.18E-13	all
Benzo(k)fluoranthene	0.00335	cPAHs	8.67E-02	4.59E-08		3.83E-13	cPAHs
Benzo(a)pyrene	0.00335	Risk=	8.67E-02	9.29E-08		7.75E-12	
Chrysene	0.013	1E-05	3.36E-01	3.94E-07		3.28E-13	
Dibenz(a,h)anthracene	0.00335		8.67E-02	1.30E-07		1.08E-12	Σ Risk=
Indeno(1,2,3-cd)pyrene	0.00335		8.67E-02	1.15E-09		9.62E-15	1.52E-11
Sum	2517.1832		6.51E+04	9.43E+01	7.32E-02	7.46E-05	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality

Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **100% NAPL**

Protective TPH GW Conc, ug/L = 9.43E+01

RISK @ Well = NA

HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	217.3
Equilibrated Weighted Average MW of NAPL, g/mol:	217.5
Initial Weighted Average Density of NAPL, kg/L:	0.814
Volumetric NAPL Content, Θ_{NAPL} :	1.2E-01
NAPL Saturation (%), Θ_{NAPL}/n :	28.56%
100% NAPL, mg/kg	65110.7

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.00% in Solid: 0.04%

Total Mass distributed in Air Phase: 0.00% in NAPL: 99.96%

Please Check Soil Residual Saturation TPH Levels: Refer to Table 747-5!

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: B-9-6.5

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	2.5	0.05%
AL_EC >6-8	47.1	1.02%
AL_EC >8-10	550	11.96%
AL_EC >10-12	390	8.48%
AL_EC >12-16	1600	34.81%
AL_EC >16-21	840	18.27%
AL_EC >21-34	80	1.74%
AR_EC >8-10	322.6	7.02%
AR_EC >10-12	36.6	0.80%
AR_EC >12-16	210	4.57%
AR_EC >16-21	470	10.22%
AR_EC >21-34	43.97	0.96%
Benzene	0.05	0.00%
Toluene	0.241	0.01%
Ethylbenzene	0.05	0.00%
Total Xylenes	3.35	0.07%
Naphthalene	0.4	0.01%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane		0.00%
MTBE	0.05	0.00%
Ethylene Dibromide (EDB)	0.024	0.00%
1,2 Dichloroethane (EDC)	0.024	0.00%
Benzo(a)anthracene	0.00335	0.00%
Benzo(b)fluoranthene	0.00335	0.00%
Benzo(k)fluoranthene	0.00335	0.00%
Benzo(a)pyrene	0.00335	0.00%
Chrysene	0.008	0.00%
Dibenz(a,h)anthracene	0.00335	0.00%
Indeno(1,2,3-cd)pyrene	0.00335	0.00%
Sum	4596.9871	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) AL_EC>5-6 was ND, 1/2 MDL used for calculation.
(2) Toluene and xylenes concentrations from VPH analysis.
(3) EDB and EDC were ND, 1/2 MDL used for calculation.
(4) Benzene, ethylbenzene and MTBE were ND, 1/2 MDL used for calculation, MDL from VPH analysis.
(5) Benzo(a)anthracene, benzofluoranthenes, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene were ND, 1/2 MDL used for calculation.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: B-9-6.5
Measured Soil TPH Concentration, mg/kg: **4,596.987**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,082	2.26E-06	1.84E+00	Fail
	Method C	33,500	3.87E-07	1.37E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	8	1.31E-03	5.97E-01	Fail
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,081.69**	**33,500.04**
Most Stringent Criterion	**EDB**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	*NO*	2.50E+03	1.23E-06	1.00E+00	YES	3.35E+04	2.82E-06	1.00E+00
Total Risk=1E-5	*NO*	2.03E+04	1.00E-05	8.13E+00	*NO*	1.19E+05	1.00E-05	3.55E+00
Risk of Benzene= 1E-6	*NO*	1.67E+06	8.22E-04	6.68E+02	NA			
Risk of cPAHs mixture= 1E-6	*NO*	9.34E+04	4.59E-05	3.74E+01				
EDB	YES	2.08E+03	1.02E-06	8.33E-01				
EDC	*NO*	1.94E+06	9.57E-04	7.78E+02				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**9.19**
Protective Soil Concentration, mg/kg	**7.85**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	4.44E+02	1.63E-03	6.58E-01	100% NAPL
Total Risk = 1E-5	YES	9.19E+00	1.00E-05	1.56E-02	7.85E+00
Total Risk = 1E-6	YES	9.20E-01	1.00E-06	1.57E-03	7.85E-01
Risk of cPAHs mixture= 1E-5	*NO*	4.44E+02	1.63E-03	6.58E-01	100% NAPL
Benzene MCL = 5 ug/L	*NO*	4.44E+02	1.63E-03	6.58E-01	100% NAPL
MTBE = 20 ug/L	*NO*	4.14E+02	1.52E-03	6.38E-01	1.34E+04

Note: 100% NAPL is 64000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	4.44E+02	1.63E-03	6.58E-01	**100% NAPL**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Mixtures in the Unsaturated Zone of Unconfined Aquifers Used as Current or Potential Sources of Drinking Water

WAC 173-340-740 and 747

Date: 12/31/2014
Site Name: 11-May-39
Sample Name: B-9-6.5

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	2.5		3.53E+01	2.16E+00	1.59E-04		
AL_EC >6-8	47.1		6.65E+02	4.97E+00	3.66E-04		
AL_EC >8-10	550		7.77E+03	3.56E+00	1.48E-02		
AL_EC >10-12	390		5.51E+03	1.62E-01	6.76E-04		
AL_EC >12-16	1600		2.26E+04	1.19E-02	2.48E-05		
AL_EC >16-21	840		1.19E+04	7.92E-06	2.48E-10		
AL_EC >21-34	80		1.13E+03	5.88E-12	1.84E-16		
AR_EC >8-10	322.6		4.56E+03	3.40E+02	4.25E-01		
AR_EC >10-12	36.6		5.17E+02	1.37E+01	8.59E-02		
AR_EC >12-16	210		2.97E+03	1.59E+01	1.99E-02		
AR_EC >16-21	470		6.64E+03	2.47E+00	5.15E-03		
AR_EC >21-34	43.97		6.21E+02	2.37E-03	3.70E-06		
Benzene	0.05	5	7.06E-01	2.14E+00	6.70E-02	2.70E-06	
Toluene	0.241	1000	3.40E+00	2.67E+00	4.18E-03		
Ethylbenzene	0.05	700	7.06E-01	1.56E-01	1.95E-04		
Total Xylenes	3.35	1000	4.73E+01	1.05E+01	6.59E-03		
Naphthalene	0.4	160	5.65E+00	1.89E-01	1.18E-03		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	0		0.00E+00	0.00E+00	0.00E+00		
MTBE	0.05	20	7.06E-01	4.07E+01	0.00E+00		***Fail***
Ethylene Dibromide (EDB)	0.024	0.01	3.39E-01	8.34E-01	1.16E-02	1.62E-03	***Fail***
1,2 Dichloroethane (EDC)	0.024	5	3.39E-01	3.76E+00	1.57E-02	7.83E-06	
Benzo(a)anthracene	0.00335	for	4.73E-02	2.70E-07		2.25E-12	for
Benzo(b)fluoranthene	0.00335	all	4.73E-02	3.90E-08		3.26E-13	all
Benzo(k)fluoranthene	0.00335	cPAHs	4.73E-02	2.08E-08		1.74E-13	cPAHs
Benzo(a)pyrene	0.00335	Risk=	4.73E-02	4.22E-08		3.52E-12	
Chrysene	0.008	1E-05	1.13E-01	1.10E-07		9.17E-14	
Dibenz(a,h)anthracene	0.00335		4.73E-02	5.88E-08		4.91E-13	Σ Risk=
Indeno(1,2,3-cd)pyrene	0.00335		4.73E-02	5.23E-10		4.36E-15	6.86E-12
Sum	4596.9871		6.49E+04	4.44E+02	6.58E-01	1.63E-03	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality
Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **100% NAPL**
Protective TPH GW Conc, ug/L = 4.44E+02
RISK @ Well = NA
HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	179.9
Equilibrated Weighted Average MW of NAPL, g/mol:	180.0
Initial Weighted Average Density of NAPL, kg/L:	0.811
Volumetric NAPL Content, Θ_{NAPL} :	1.2E-01
NAPL Saturation (%), Θ_{NAPL}/n :	28.54%
100% NAPL, mg/kg	64909.6

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.00% in Solid: 0.09%
Total Mass distributed in Air Phase: 0.00% in NAPL: 99.90%

Please Check Soil Residual Saturation TPH Levels: Refer to Table 747-5!

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: B-21-6.5

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.07%
AL_EC >6-8	99.2	1.31%
AL_EC >8-10	453	5.98%
AL_EC >10-12	930	12.27%
AL_EC >12-16	3100	40.90%
AL_EC >16-21	1300	17.15%
AL_EC >21-34	93	1.23%
AR_EC >8-10	222	2.93%
AR_EC >10-12	88	1.16%
AR_EC >12-16	490	6.46%
AR_EC >16-21	750	9.89%
AR_EC >21-34	32	0.42%
Benzene	0.1	0.00%
Toluene	0.245	0.00%
Ethylbenzene	8.12	0.11%
Total Xylenes	2.2	0.03%
Naphthalene	6.9	0.09%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane		0.00%
MTBE	0.1	0.00%
Ethylene Dibromide (EDB)	0.023	0.00%
1,2 Dichloroethane (EDC)	0.023	0.00%
Benzo(a)anthracene	0.012	0.00%
Benzo(b)fluoranthene	0.011	0.00%
Benzo(k)fluoranthene	0.0035	0.00%
Benzo(a)pyrene	0.0035	0.00%
Chrysene	0.035	0.00%
Dibenz(a,h)anthracene	0.0035	0.00%
Indeno(1,2,3-cd)pyrene	0.0035	0.00%
Sum	7579.983	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) AL EC 5-6 was ND, 1/2 MDL used for calculation.
(2) Benzene was ND, 1/2 MDL from VPH analysis used for calculation.
(3) Toluene and ethylbenzene concentrations from VPH analysis.
(4) m+p-xylene concentration from 8260B analysis.
(5) o-xylene concentration from VPH analysis.
(6) EDB and EDC were ND, ½ MDL used for calculation.
(7) MTBE, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene were ND, 1/2 MDL used for calculation, MTBE MDL from VPH analysis.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 500 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: B-21-6.5
Measured Soil TPH Concentration, mg/kg: **7,579.983**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,343	2.19E-06	3.23E+00	Fail
	Method C	30,784	3.77E-07	2.46E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	13	8.51E-04	4.62E-01	Fail
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,343.21**	**30,783.61**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.34E+03	6.78E-07	1.00E+00	YES	3.08E+04	1.53E-06	1.00E+00
Total Risk=1E-5	*NO*	3.46E+04	1.00E-05	1.47E+01	*NO*	2.01E+05	1.00E-05	6.54E+00
Risk of Benzene= 1E-6	*NO*	1.38E+06	3.98E-04	5.87E+02	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.09E+05	3.16E-05	4.66E+01				
EDB	*NO*	3.58E+03	1.04E-06	1.53E+00				
EDC	*NO*	3.35E+06	9.68E-04	1.43E+03				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**11.76**
Protective Soil Concentration, mg/kg	**13.48**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	2.83E+02	9.77E-04	4.92E-01	100% NAPL
Total Risk = 1E-5	YES	1.18E+01	1.00E-05	2.31E-02	1.35E+01
Total Risk = 1E-6	YES	1.18E+00	1.00E-06	2.31E-03	1.35E+00
Risk of cPAHs mixture= 1E-5	*NO*	2.83E+02	9.77E-04	4.92E-01	100% NAPL
Benzene MCL = 5 ug/L	*NO*	2.83E+02	9.77E-04	4.92E-01	100% NAPL
MTBE = 20 ug/L	*NO*	2.45E+02	8.82E-04	4.69E-01	9.94E+03

Note: 100% NAPL is 64000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	2.83E+02	9.77E-04	4.92E-01	**100% NAPL**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Sites - Migration to Potable Ground Water

WAC 173-340-740 and 747

Date: 12/31/2014
Site Name: 11-May-39
Sample Name: B-21-6.5

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	5		4.28E+01	2.70E+00	1.98E-04		
AL_EC >6-8	99.2		8.49E+02	6.53E+00	4.80E-04		
AL_EC >8-10	453		3.87E+03	1.83E+00	7.63E-03		
AL_EC >10-12	930		7.95E+03	2.42E-01	1.01E-03		
AL_EC >12-16	3100		2.65E+04	1.44E-02	3.00E-05		
AL_EC >16-21	1300		1.11E+04	7.65E-06	2.39E-10		
AL_EC >21-34	93		7.95E+02	4.26E-12	1.33E-16		
AR_EC >8-10	222		1.90E+03	1.46E+02	1.82E-01		
AR_EC >10-12	88		7.53E+02	2.06E+01	1.29E-01		
AR_EC >12-16	490		4.19E+03	2.31E+01	2.89E-02		
AR_EC >16-21	750		6.42E+03	2.46E+00	5.13E-03		
AR_EC >21-34	32		2.74E+02	1.08E-03	1.68E-06		
Benzene	0.1	5	8.55E-01	2.67E+00	8.36E-02	3.36E-06	
Toluene	0.245	1000	2.10E+00	1.70E+00	2.65E-03		
Ethylbenzene	8.12	700	6.95E+01	1.58E+01	1.97E-02		
Total Xylenes	2.2	1000	1.88E+01	4.32E+00	2.70E-03		
Naphthalene	6.9	160	5.90E+01	2.04E+00	1.27E-02		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	0		0.00E+00	0.00E+00	0.00E+00		
MTBE	0.1	20	8.55E-01	5.03E+01	0.00E+00		***Fail***
Ethylene Dibromide (EDB)	0.023	0.01	1.97E-01	4.99E-01	6.92E-03	9.69E-04	***Fail***
1,2 Dichloroethane (EDC)	0.023	5	1.97E-01	2.25E+00	9.35E-03	4.67E-06	
Benzo(a)anthracene	0.012	for	1.03E-01	6.04E-07		5.04E-12	for
Benzo(b)fluoranthene	0.011	all	9.41E-02	8.00E-08		6.67E-13	all
Benzo(k)fluoranthene	0.0035	cPAHs	2.99E-02	1.36E-08		1.13E-13	cPAHs
Benzo(a)pyrene	0.0035	Risk=	2.99E-02	2.75E-08		2.29E-12	
Chrysene	0.035	1E-05	2.99E-01	3.00E-07		2.50E-13	
Dibenz(a,h)anthracene	0.0035		2.99E-02	3.83E-08		3.20E-13	Σ Risk=
Indeno(1,2,3-cd)pyrene	0.0035		2.99E-02	3.41E-10		2.84E-15	8.69E-12
Sum	7579.983		6.48E+04	2.83E+02	4.92E-01	9.77E-04	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality

Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **100% NAPL**

Protective TPH GW Conc, ug/L = 2.83E+02

RISK @ Well = NA

HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	185.2
Equilibrated Weighted Average MW of NAPL, g/mol:	185.2
Initial Weighted Average Density of NAPL, kg/L:	0.810
Volumetric NAPL Content, Θ_{NAPL} :	1.2E-01
NAPL Saturation (%), Θ_{NAPL}/n :	28.55%
100% NAPL, mg/kg	64836.6

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.00% in Solid: 0.07%

Total Mass distributed in Air Phase: 0.00% in NAPL: 99.93%

Please Check Soil Residual Saturation TPH Levels: Refer to Table 747-5!

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: SB-64-8

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6		0.00%
AL_EC >6-8	15.2	8.09%
AL_EC >8-10	2.38	1.27%
AL_EC >10-12	6.6	3.51%
AL_EC >12-16	30	15.96%
AL_EC >16-21	34	18.09%
AL_EC >21-34	13	6.92%
AR_EC >8-10	12.4	6.60%
AR_EC >10-12	11	5.85%
AR_EC >12-16	16	8.51%
AR_EC >16-21	23	12.24%
AR_EC >21-34	21	11.17%
Benzene	0.031	0.02%
Toluene	0.006	0.00%
Ethylbenzene	0.602	0.32%
Total Xylenes	0.013	0.01%
Naphthalene	0.25	0.13%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane	2.4	1.28%
MTBE	0.0481	0.03%
Ethylene Dibromide (EDB)	0.001	0.00%
1,2 Dichloroethane (EDC)	0.001	0.00%
Benzo(a)anthracene		0.00%
Benzo(b)fluoranthene		0.00%
Benzo(k)fluoranthene		0.00%
Benzo(a)pyrene		0.00%
Chrysene		0.00%
Dibenz(a,h)anthracene		0.00%
Indeno(1,2,3-cd)pyrene		0.00%
Sum	187.9321	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) AL_EC>5-6 was ND, 1/2 the MDL was less than n-Hexane concentration. No entry for AL_EC>5-6 to avoid double counting.
(2) Benzene and ethylbenzene concentrations from 8260B analysis.
(3) Toluene and xylenes concentrations from VPH analysis.
(4) EDB & EDC were ND, ½ MDL used for calculation.
(5) MTBE was ND, 1/2 MDL used for calculation, MTBE MDL from VPH analysis.
(6) PAHs were not analyzed.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: SB-64-8
Measured Soil TPH Concentration, mg/kg: **187.932**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,042	9.38E-08	6.17E-02	Pass
	Method C	40,165	1.58E-08	4.68E-03	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	8	2.27E-04	6.35E-01	Fail
	Target TPH GW Conc. @ 500 ug/L	951	NA	NA	Pass

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,042.46**	**40,164.83**
Most Stringent Criterion	**EDB**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	*NO*	3.05E+03	1.52E-06	1.00E+00	YES	4.02E+04	3.38E-06	1.00E+00
Total Risk=1E-5	*NO*	2.00E+04	1.00E-05	6.57E+00	*NO*	1.19E+05	1.00E-05	2.96E+00
Risk of Benzene= 1E-6	*NO*	1.10E+05	5.50E-05	3.61E+01	NA			
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA				
EDB	YES	2.04E+03	1.02E-06	6.70E-01				
EDC	*NO*	1.91E+06	9.52E-04	6.26E+02				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**15.53**
Protective Soil Concentration, mg/kg	**7.56**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	3.78E+02	4.48E-04	1.00E+00	4.29E+02
Total Risk = 1E-5	YES	1.55E+01	1.00E-05	3.75E-02	7.56E+00
Total Risk = 1E-6	YES	1.56E+00	1.00E-06	3.76E-03	7.56E-01
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	*NO*	3.08E+02	3.15E-04	7.99E-01	2.76E+02
MTBE = 20 ug/L	*NO*	3.55E+02	4.00E-04	9.32E-01	3.70E+02

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	5.00E+02	7.58E-04	1.36E+00	**9.51E+02**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Mixtures - Migration to Potable Ground Water

WAC 173-340-740 and 747

Date: 12/31/2014
Site Name: 11-May-39
Sample Name: SB-64-8

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	0		0.00E+00	0.00E+00	0.00E+00		
AL_EC >6-8	15.2		7.69E+01	3.69E+01	2.71E-03		
AL_EC >8-10	2.38		1.20E+01	3.89E-01	1.62E-03		
AL_EC >10-12	6.6		3.34E+01	7.18E-02	2.99E-04		
AL_EC >12-16	30		1.52E+02	5.94E-03	1.24E-05		
AL_EC >16-21	34		1.72E+02	8.40E-06	2.63E-10		
AL_EC >21-34	13		6.58E+01	2.57E-11	8.04E-16		
AR_EC >8-10	12.4		6.27E+01	2.27E+02	2.84E-01		
AR_EC >10-12	11		5.56E+01	8.52E+01	5.33E-01		
AR_EC >12-16	16		8.09E+01	2.91E+01	3.64E-02		
AR_EC >16-21	23		1.16E+02	3.17E+00	6.61E-03		
AR_EC >21-34	21		1.06E+02	3.04E-02	4.75E-05		
Benzene	0.031	5	1.57E-01	1.27E+01	3.97E-01	1.60E-05	***Fail***
Toluene	0.006	1000	3.04E-02	1.03E+00	1.60E-03		
Ethylbenzene	0.602	700	3.05E+00	3.96E+01	4.95E-02		
Total Xylenes	0.013	1000	6.58E-02	8.45E-01	5.28E-04		
Naphthalene	0.25	160	1.26E+00	2.68E+00	1.68E-02		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	2.4		1.21E+01	1.02E+01	2.12E-02		
MTBE	0.0481	20	2.43E-01	5.02E+01	0.00E+00		***Fail***
Ethylene Dibromide (EDB)	0.001	0.01	5.06E-03	3.81E-01	5.29E-03	7.40E-04	***Fail***
1,2 Dichloroethane (EDC)	0.001	5	5.06E-03	6.78E-01	2.83E-03	1.41E-06	
Benzo(a)anthracene	0	for	0.00E+00	0.00E+00		0.00E+00	for
Benzo(b)fluoranthene	0	all	0.00E+00	0.00E+00		0.00E+00	all
Benzo(k)fluoranthene	0	cPAHs	0.00E+00	0.00E+00		0.00E+00	cPAHs
Benzo(a)pyrene	0	Risk=	0.00E+00	0.00E+00		0.00E+00	
Chrysene	0	1E-05	0.00E+00	0.00E+00		0.00E+00	
Dibenz(a,h)anthracene	0		0.00E+00	0.00E+00		0.00E+00	Σ Risk=
Indeno(1,2,3-cd)pyrene	0		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Sum	187.9321		9.51E+02	5.00E+02	1.36E+00	7.58E-04	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality
Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **950.66**
Protective TPH GW Conc, ug/L = 5.00E+02
RISK @ Well = NA
HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	177.3
Equilibrated Weighted Average MW of NAPL, g/mol:	183.3
Initial Weighted Average Density of NAPL, kg/L:	0.870
Volumetric NAPL Content, Θ_{NAPL} :	1.5E-03
NAPL Saturation (%), Θ_{NAPL}/n :	0.36%
100% NAPL, mg/kg	69632.5

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.21% in Solid: 6.95%
Total Mass distributed in Air Phase: 0.46% in NAPL: 92.38%

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 12/31/14
Site Name: 306570
Sample Name: SB-101-8

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis	Composition Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	14.8	0.77%
AL_EC >6-8	179	9.36%
AL_EC >8-10	176	9.20%
AL_EC >10-12	74	3.87%
AL_EC >12-16	420	21.96%
AL_EC >16-21	380	19.86%
AL_EC >21-34	95	4.97%
AR_EC >8-10	101	5.28%
AR_EC >10-12	14	0.73%
AR_EC >12-16	120	6.27%
AR_EC >16-21	280	14.64%
AR_EC >21-34	57	2.98%
Benzene	0.003	0.00%
Toluene	0.519	0.03%
Ethylbenzene	0.007	0.00%
Total Xylenes	1.58	0.08%
Naphthalene	0.004	0.00%
1-Methyl Naphthalene		0.00%
2-Methyl Naphthalene		0.00%
n-Hexane	0.0005	0.00%
MTBE	0.02925	0.00%
Ethylene Dibromide (EDB)	0.0005	0.00%
1,2 Dichloroethane (EDC)	0.0005	0.00%
Benzo(a)anthracene		0.00%
Benzo(b)fluoranthene		0.00%
Benzo(k)fluoranthene		0.00%
Benzo(a)pyrene		0.00%
Chrysene		0.00%
Dibenz(a,h)anthracene		0.00%
Indeno(1,2,3-cd)pyrene		0.00%
Sum	1912.94375	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
(1) Benzene and ethylbenzene concentrations from 8260B analysis.
(2) Toluene and xylenes concentrations from VPH analysis.
(3) EDB & EDC were ND, ½ MDL used for calculation.
(4) MTBE was ND, 1/2 MDL used for calculation, MTBE MDL from VPH analysis.
(5) PAHs were not analyzed.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.42	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.12	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.003	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 12/31/2014
Site Name: 306570
Sample Name: SB-101-8
Measured Soil TPH Concentration, mg/kg: **1,912.944**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	3,033	4.62E-08	6.31E-01	Pass
	Method C	39,781	7.82E-09	4.81E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	171	4.99E-05	4.08E-01	Fail
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**3,032.69**	**39,780.79**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	3.03E+03	7.33E-08	1.00E+00	YES	3.98E+04	1.63E-07	1.00E+00
Total Risk=1E-5	*NO*	4.14E+05	1.00E-05	1.36E+02	*NO*	2.45E+06	1.00E-05	6.15E+01
Risk of Benzene= 1E-6	*NO*	1.16E+07	2.80E-04	3.82E+03	NA			
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA				
EDB	*NO*	4.16E+04	1.00E-06	1.37E+01				
EDC	*NO*	3.88E+07	9.38E-04	1.28E+04				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**148.44**
Protective Soil Concentration, mg/kg	**170.98**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	4.42E+02	7.92E-05	4.74E-01	100% NAPL
Total Risk = 1E-5	YES	1.48E+02	1.00E-05	1.78E-01	1.71E+02
Total Risk = 1E-6	YES	2.22E+01	1.00E-06	2.85E-02	1.56E+01
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	*NO*	4.42E+02	7.92E-05	4.74E-01	100% NAPL
MTBE = 20 ug/L	*NO*	3.94E+02	7.06E-05	4.58E-01	8.30E+03

Note: 100% NAPL is 66000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	4.42E+02	7.92E-05	4.74E-01	**100% NAPL**

A2. 2 Worksheet for Calculating Soil Cleanup Level for the Protection of Ground Water Quality: (Leaching Pathway)
Washington State Department of Ecology, Toxics Cleanup Program Soil Cleanup Level for TPH Based on Protection of Potable Ground Water

WAC 173-340-740 and 747

Date: 12/31/2014
Site Name: 11-May-39
Sample Name: SB-101-8

Chemical of Concern or EC Group	Measured Soil Conc @dry basis	GW Cleanup Level	Adjusted Condition: Soil Conc being tested	Predicted Conc @Well	HQ @ Well	RISK @ Well	Pass or Fail?
	mg/kg	ug/L	mg/kg	ug/L	unitless	unitless	
Petroleum EC Fraction							
AL_EC >5-6	14.8		5.98E+01	2.87E+01	2.11E-03		
AL_EC >6-8	179		7.23E+02	4.36E+01	3.20E-03		
AL_EC >8-10	176		7.11E+02	2.65E+00	1.11E-02		
AL_EC >10-12	74		2.99E+02	7.20E-02	3.00E-04		
AL_EC >12-16	420		1.70E+03	7.32E-03	1.53E-05		
AL_EC >16-21	380		1.53E+03	8.38E-06	2.62E-10		
AL_EC >21-34	95		3.84E+02	1.64E-11	5.11E-16		
AR_EC >8-10	101		4.08E+02	2.37E+02	2.96E-01		
AR_EC >10-12	14		5.65E+01	1.20E+01	7.48E-02		
AR_EC >12-16	120		4.85E+02	2.10E+01	2.63E-02		
AR_EC >16-21	280		1.13E+03	3.44E+00	7.17E-03		
AR_EC >21-34	57		2.30E+02	7.20E-03	1.12E-05		
Benzene	0.003	5	1.21E-02	2.56E-01	8.01E-03	3.22E-07	
Toluene	0.519	1000	2.10E+00	1.26E+01	1.97E-02		
Ethylbenzene	0.007	700	2.83E-02	4.98E-02	6.22E-05		
Total Xylenes	1.58	1000	6.38E+00	1.13E+01	7.08E-03		
Naphthalene	0.004	160	1.62E-02	4.36E-03	2.72E-05		
1-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
2-Methyl Naphthalene	0		0.00E+00	0.00E+00	0.00E+00		
n-Hexane	0.0005		2.02E-03	2.44E-04	5.08E-07		
MTBE	0.02925	20	1.18E-01	1.90E+01	0.00E+00		
Ethylene Dibromide (EDB)	0.0005	0.01	2.02E-03	3.57E-02	4.96E-04	6.93E-05	***Fail***
1,2 Dichloroethane (EDC)	0.0005	5	2.02E-03	1.22E-01	5.08E-04	2.54E-07	
Benzo(a)anthracene	0	for	0.00E+00	0.00E+00		0.00E+00	for
Benzo(b)fluoranthene	0	all	0.00E+00	0.00E+00		0.00E+00	all
Benzo(k)fluoranthene	0	cPAHs	0.00E+00	0.00E+00		0.00E+00	cPAHs
Benzo(a)pyrene	0	Risk=	0.00E+00	0.00E+00		0.00E+00	
Chrysene	0	1E-05	0.00E+00	0.00E+00		0.00E+00	
Dibenz(a,h)anthracene	0		0.00E+00	0.00E+00		0.00E+00	Σ Risk=
Indeno(1,2,3-cd)pyrene	0		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Sum	1912.94375		7.73E+03	3.92E+02	4.57E-01	6.99E-05	***Fail***

Site-Specific Hydrogeological Properties previously entered:

Item	Symbol	Value	Units
Total soil porosity:	n	0.42	unitless
Volumetric water content:	Θ_w	0.3	unitless
Volumetric air content:	Θ_a	0.12	unitless
Soil bulk density measured:	ρ_b	1.5	kg/L
Fraction Organic Carbon:	f_{oc}	0.003	unitless
Dilution Factor:	DF	20	unitless

Target Ground Water TPH conc adjusted previously if any:

Target Ground Water TPH Conc, ug/L ⇒ 500

CALCULATE PROTECTIVE CONDITION OR TEST ADJUSTED CONDITION

Calculate or

Selected Criterion: @ Protection of Surface Water Quality

Most Stringent? NA

Protective TPH Soil Conc, mg/kg = **100% NAPL**

Protective TPH GW Conc, ug/L = 4.42E+02

RISK @ Well = NA

HI @Well = NA

DEDAILED MODEL RESULTS

Type of model used for computation:	4-Phase Model
Computation completed?	Yes!
Initial Weighted Average MW of NAPL, g/mol:	173.7
Equilibrated Weighted Average MW of NAPL, g/mol:	173.9
Initial Weighted Average Density of NAPL, kg/L:	0.828
Volumetric NAPL Content, Θ_{NAPL} :	1.2E-01
NAPL Saturation (%), Θ_{NAPL}/n :	28.54%
100% NAPL, mg/kg	66255.3

Mass Distribution Pattern @ 4-phase in soil pore system:

Total Mass distributed in Water Phase: 0.00% in Solid: 0.09%

Total Mass distributed in Air Phase: 0.00% in NAPL: 99.91%

Please Check Soil Residual Saturation TPH Levels: Refer to Table 747-5!

AECOM

aecom.com